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Hampton Court Palace: Elevation, Plans, Sections, &c.
5 sheets (Institute Silver Medal Drawings). E 1905
- HUNTER (J. A. M.)—Design for a Winter Garden, View,
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Knockers. 11 sheets.

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- GENALA (F.)—Il Palazzo di San Giorgio in Genova. sm. fo. Florence 1889
- ITALY—SENATO DEL REGNO.—Allegati al disegno di Legge Conservazione dei monumenti e degli oggetti di antichità e d'arte. Decreti-Legge dei cessati Governi d'Italia. fo. Rome 1901
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- TOTAL: VOLUMES (exclusive of Periodicals, Reports, and Transactions of Societies, and Parts of Works issued in serial form now in progress), 90; PAMPHLETS, 24.

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- HOLLAN (WENCESLAUS)—Castella et Prætoria Nobilium Brabantia et Cænobita celeberrima delineata.
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- Annual Digest of Reports.
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- LIVERPOOL (UNIVERSITY OF)—SCHOOL OF ARCHITECTURE.—Portfolio of Measured Drawings.
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- MIDDLETON (J. H.)—The Remains of Ancient Rome. 2 vols. 2nd ed.
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la. 8o. Munich 1904
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4o. Preston 1904
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- POELAERT (J.)—Le nouveau Palais de Justice de Bruxelles.
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- VINYCOMB (J.)—Fictitious and symbolic creatures in art, with special reference to their use in British Heraldry.
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- TOTAL: VOLUMES, 51; PAMPHLET, 1.

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- GRAVINA (D. R.)—Il Duomo di Monreale (incomplete).
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- NOLLI (G.)—Nuova pianta di Roma.
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- PARIS—COMMISSION DES MONUMENTS HISTORIQUES—
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Hôtel de Ville et Hôtel-Dieu d'Orléans.
Château de Blois.
Saint-Paul-Trois-Châteaux.
Église de Paray-le-Monial.
Église d'Eu.
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 BUMPUS (T. F.)—Glories of Northern France. 4o. Lond. 1905
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 KENT (W.)—Designs of Inigo Jones. 1a. 1o. Lond. 1835
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- MAGINNIS (C. D.)—Pen drawing. 8o. Boston 1903
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 SAUVAGEOT (C.)—Monographie de l'Hôtel de Vogüé à Dijon. 1o. Paris 1863
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MEDALS PRESENTED.

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Rev. Ionic Capital, &c.; inscription, The greatest Trust between Man and Man is the trust of giving Counsel. Ed. Lanteri, &c. (Bronze) 1905
 BARNESLEY—Obv. Memorial Tower erected to Mrs. Locke by Sarah McCreery, 1877. Architect, R. P. Spiers.
 PARIS—Struck by the Société des Architectes Diplômés par le Gouvernement to commemorate the Seventh International Congress of Architects, London, 1906.
Obv. Compasses and Floral Decorations. Inscription: "À l'Institut Royal des Architectes Britanniques. VII^e Congrès International des Architectes à Londres, 1906."
Rev. Allegorical Group. Inscription: "La Société honore et encourage les hautes études d'Architecture. 1877." Sc. Louis Bötté.

TOTAL: MEDALS, 3.

JOURNAL

OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

Seventy-first Session—1905-1906.

THE OPENING ADDRESS. Delivered by the President, Mr. JOHN BELCHER, A.R.A.,
at the First General Meeting, Monday, 6th November 1905.

COLLEAGUES, LADIES, AND GENTLEMEN,—

THE confidence and goodwill of my brother architects—to which I am indebted for this second opportunity of addressing you at the opening of a new Session—are a source of no small encouragement to me, in view of the difficulties likely to attend upon my position as President during the period upon which we are now entering.

I am very grateful for the courtesy and consideration which have been so generously extended to me on all hands, for the help and support of the Members of Council, and for the ever-ready assistance of our Secretary, Mr. Locke, and the General Staff, to whose patience and zeal in the official and clerical work of the Institute we owe more than its members generally are perhaps aware of.

The general appreciation of the President's "At Homes" has been so plainly evidenced that I am proposing to continue these pleasant reunions during the coming Session. The readiness with which our friends the painters and sculptors have responded to our invitation has added greatly to the popularity of the "At Homes," which have, I hope, served the good purpose of drawing us all more closely together.

Looking back upon the year that is past I may, without fear of contradiction, report to you a great advance in the position of this Institute, in its influence and power, and may with equal confidence prognosticate a still greater advance in the coming year, owing to the special circumstances of the time.

Our numbers have gone up very much, owing partly, no doubt, to the determination of the Institute to close its doors against all who have not passed a qualifying examination.

Our losses have been numerous too, many of the elder men whose labours in the past have done so much to make the Institute what it is, having passed from among us.

The latest loss we have to deplore is that of our distinguished former President, Mr. Alfred Waterhouse, R.A., veritably one of the giants of our days. This is not the occasion for me to dilate upon Mr. Waterhouse's marvellous powers of work, as the vast buildings which remain testify thereto. But it may fairly be claimed for him that he developed a phase of Art—

consistently followed to the last—as peculiarly his own as that of the brothers Adam was characteristic of them in another direction. Entering upon his career just when the tide of Gothic revival was at the flood, he held his youthful bark on a course distinctly his own, making the strong reactionary currents of the time subserve the needs of modern domestic architecture. To his practical and orderly mind the regular and symmetrical classical plan commended itself as no other did, and it was on this that he won his first competition, the Manchester Assize Courts. The history of his life will assuredly be found to be fruitful both in instruction and encouragement for those who love their art. Sympathetic letters have been received at the Institute from Continental architects and others, testifying to the great esteem in which he was held abroad as well as in England.

The public works to which I referred in my Address a year ago are rapidly approaching completion, and in the City the Old Bailey buildings are progressing well. The excellence of Mr. Mountford's plan is more and more evident as it is developed, and the building both externally and internally fully expresses its purpose. The work is broad in treatment, and will no doubt prove impressive in character when completed.

The pulling down of a large portion of the Regent Street Quadrant has been the occasion of considerable anxiety, the more so because buildings recently erected on other Crown property near by exhibit a total disregard for their surroundings, and indeed for any general scheme such as that devised by Nash, to which Regent Street owes its peculiar character and value. The present officials, however, recognising the mistake made in the past, have determined to use their powers to retain a uniform treatment of the Quadrant at least. The need for such uniform treatment was so strongly felt by architects that had it not become known that Mr. Norman Shaw had been engaged upon a design of a façade for all the buildings in the Quadrant there would, I feel sure, have been a general outcry. I have reason to believe now that, thanks to the wisdom of the authorities and the compliance of the County Council, to whose architect we owe much, in respect of such portions as are under their control, there will be achieved a memorable work and a noble termination to Regent Street worthy of a great city.

The proposed new Wesleyan Hall in Westminster gave rise to an important competition, for which many fine designs were submitted. The choice of the assessors in the end fell upon Messrs. Lanchester & Rickards, but there were others who ran these gentlemen very close. The design of Messrs. Cross & Mallocks in particular presented many delightful features.

Cardiff, where again Messrs. Lanchester & Rickards are very much in evidence, claims a good deal of our attention at the present time. Its Town Hall and Law Courts promise to be among the most successful buildings of our day. Simple in plan, convenient in arrangement, fine in scale, decorated with just the proper amount of ornament, they will combine with the new University Buildings by Mr. Caröe, the Library and Museum by Mr. Seward, and a small but excellent building by Mr. Wills, to form a remarkable group—situated in beautiful park-like grounds—of which Cardiff may well be proud.

By the far-seeing liberality of the authorities, the architects of the municipal buildings have been enabled to avail themselves of the assistance of some of our best sculptors in giving force and expression to the buildings.

I must pass over many other important works which are either in course of erection or in contemplation, to speak of a matter which touches us very closely—the question, viz., of a new official home for this Institute. Owing to the increase of official work, the growth of the Library, and the need of more space for the exhibition of students' drawings and the display of our many treasures, the premises which we now occupy are daily proving more inadequate to the demands made upon them, and, as they cannot be extended, we have been compelled

to look elsewhere. After many fruitless inquiries and attempts, the Council hope to be able to recommend the acquisition of a fine freehold site which has been found in Portland Place.

I need scarcely say that this important matter has been most carefully considered—by a special Committee of Past Presidents, as well as by the Council and the Finance Committee—both in respect of the expediency of such a step and in respect of ways and means.

The proposals adopted will be laid before you in due course. I must confess I shall be highly gratified if, when the International Congress assembles next year, I am able to point out the site referred to as marking the future home of this Institute.

There is another matter which touches us closely, or ought to. Having increased in numbers and prosperity, the Institute is called to face increasing responsibility towards those (both members and others) who from no fault of their own may have need of help.

Ours is a precarious and ever-shifting profession, with some fat years, perhaps, but many lean ones. It is hard when some who have done good and well-known work suddenly find themselves stranded by unforeseen troubles or unusual circumstances.

Gentlemen, I am distressed to inform you that the small amount of the subscriptions to the Architects' Benevolent Society is totally inadequate to meet the deserving cases which should be relieved. It should be understood that the cases dealt with are scattered throughout the country, and they have increased, but the subscriptions have not. I feel sure that I have only to remind all newly elected members and others who have not yet subscribed to this deserving cause, and they will do so at once, so that funds may be in the hands of the Committee, who, I assure you, spare no pains in their loyal efforts to relieve their distressed comrades.

The policy of the Institute continues to be directed towards the training and advancement of its members and the benefit of the community at large.

Every assistance has been rendered to public bodies who have sought for information or advice, and it is now the almost universal custom to request your President to nominate an Assessor in competitions.

In such competitions I note that the Regulations issued by the Institute are generally adopted; but it would be greatly to the advantage of all parties concerned if, whenever it is proposed to introduce a variation or insert a special clause, such variation or special clause were first supervised by the Assessor. The latter is bound to insist upon the conditions laid down, and any vagueness or uncertainty in technical details—often to the lay mind of no seeming importance—is apt to prove exceedingly unfair to competitors.

It is of great importance also that public bodies, while reserving to themselves the right of confirming the Assessor's decision, should be very slow to override or pass it by. Only a man of considerable practical experience and training in architectural work can lay his finger upon the impracticability or carefully masked faults which mar the designs of so large a proportion of competitors; and to think that it is sufficient for a layman or any body of laymen to know "what they like," to use an expression often heard in such matters, is almost to set a premium upon work which is showy but intrinsically bad. It is the duty of this Institute to lead the way in discerning and approving all that is good and pure in architecture, and to recognise, and so far as possible reward, those qualities which ensure the best results.

The want of discrimination shown in some official and other circles, particularly in the provinces, lends much force and point to the demand for the registration of architects as being one way at least of counteracting the injustice so often done to competent men.

The Committee appointed by the General Body to consider the principle of registration has now reported, and gone so far as to suggest a form of Bill in Parliament. There is, however,

considerable diversity of opinion still, and it is scarcely possible that the Bill should pass into law. Yet some remedy must be found for the present evils; we cannot be indifferent to the interests of the many able men upon whom existing conditions press so hard. Your new Registration Committee has therefore already appointed a Sub-Committee to examine impartially into the whole question. This Committee, which is composed of men holding diverse, even opposite, views, is to receive and consider the evidence of those, whether members of the Institute or not, who may be either in favour of or opposed to compulsory registration, or who have suggestions of any kind which may help the Committee to formulate a scheme which they can recommend. And any of the members in the provinces who may wish to offer suggestions or furnish evidence should communicate with the Secretary as soon as possible. The work of the Committee need not occupy any great length of time; but what is done must be thorough, and we must arrive at a final solution of the question. Should the Committee find it desirable to promote a Bill in Parliament, we must not risk failure or court defeat by presenting one which, owing to the opposition it arouses, has no chance of passing.

The coming year will mark an epoch in the history of this Institute, for at its close only those who have qualified for the ranks of the Associates will be elected to full membership. Ample provision will be made for the needs of those who thus seek to qualify, and all the necessary educational facilities will be complete.

The Institute intends to take up the question of Education on the basis laid down by the Board of Education and to give it its full support, and I am glad to be able to announce that this being so I have received an intimation from some twelve well-known architects that they are now willing to join the Institute and work with us in advancing by every means in their power this most important question of architectural education.

The new Board of Architectural Education formed for this purpose has, after long deliberation, issued a Report which has been approved by the Council and by all the educational bodies interested. The aims and methods proposed for adoption were admirably set out at one of our meetings by Mr. Reginald Blomfield, A.R.A., one of the Hon. Secretaries. The Board is constituted on a very broad basis, its Advisory Members, for instance, including representatives of the Royal Academy, the Universities of Oxford, Cambridge, and London, the Board of Education, the London County Council, University College, King's College, the Universities of Liverpool and Manchester, University College, Cardiff, the Architectural Association Day School, and the Architectural Schools of important centres in the country. All these have consented to the proposed scheme, and the co-ordination of the work in the several schools is agreed upon. The importance of the advance thus accomplished can hardly be overstated.

A certain definite standard and right method of architectural training being thus established, it follows that in due course the Board's certificate will form a very valuable asset in the portfolio of the rising architect. However desirable it may be that the style and title of architect should be limited to duly qualified men, it does not seem possible for us to do more at present than undertake to certify that the men who pass through the Board's curriculum and obtain the certificate are acquainted with the essentials of our art and possess certain definite qualifications. The test thus imposed will be a valuable one, not only in the interests of the public, but also of the students themselves.

The latter for the most part recognise their obligation to fit themselves for their work, but the natural impatience or perhaps conceit of youth leads some to think that for them at any rate there may be a short cut to success and fame, forgetting the old adage, "There is no royal road to learning."

Then the question arises, Ought not those who have submitted to an arduous course of

training and passed severe tests to be distinguished in some special manner? This is a matter to be taken into consideration.

In future those who possess a certificate of the Board of Education will certainly be exempted from some of the Institute examinations, though the final examination for membership, and that probably in a modified form, may be reserved; and we may, I think, be sure that the growing power of this Institute as the representative body will bring to its members, according to their grade, whether Fellow or Associate, not only increasing *kudos*, but an ever-larger share of the greatest and best work that may be called for in our art.

The education of the public in the elementary principles of architecture claims our attention at the present time. I know that this idea is regarded by some as utopian, but at any rate there is abundant evidence that people generally take more interest in the subject than they used to. A recently published handbook by Martin Buckmaster, though too archaeological in character, is yet evidence of a demand for information and instruction of a popular rather than technical character.

A Committee was appointed last Session to consider whether anything could be done in this direction, and they came to the conclusion that certain proposals laid before them were not only practicable but capable of an extensive application. A "standard work" issued by the Institute, and directed not so much to the training of the professional student as to furnish information which might with advantage form a part of every educated person's intellectual equipment, would prove of use, not only to the public generally, but also to school teachers and others interested in education.

This question—"The Education of the Public"—together with that of a diploma for architects, and the best methods to be adopted in the laying-out of cities, will engage the attention of the International Congress which is to meet in London in the third week of July in next year.

This will be the seventh such Congress, and the first held in London.

On previous occasions, for the most part, the Congress has been aided by a State subvention; for foreign Governments are alive to the importance of such events from the point of view of the national interests. Our system of government not allowing of such support, we are thrown back, for the success of the Congress, almost entirely on our own enterprise and *esprit de corps*. An earnest appeal is therefore made to all members of the profession in this country to lend a generous aid in this matter, not so much by special donations—though the Executive Committee are by no means too proud to accept them—as by enrolling themselves members of the Congress, whether they see their way to taking part in it personally or not. If the profession generally give the Committee their support, the Committee will see to it that the Congress is not merely a success, but not in anywise inferior in dignity and interest to any that have preceded it.

Other countries have heartily welcomed and hospitably entertained the delegates sent to them, and we must be no less generous in the reception of our foreign *confrères*, the delegates and others who are to honour us with their presence. The Institute is contributing £500; the balance, a pretty heavy one, must be supplied by subscription. A series of visits and entertainments is being arranged, and the Committee are drawing up what they hope will prove a very attractive programme.

When the time comes helpers will be welcomed. In particular the Committee are anxious to enlist the services of any members of the Institute who may be conversant with one or more foreign languages. Three or four gentlemen have already promised their services.

We are looking forward to this Congress as an opportunity of ventilating many interesting questions, and of learning something of the principles and practice adopted in other lands.

We must, however, in comparing foreign methods with our own, take into account the patronage that the State in so many cases extends to the arts, and to architecture especially, abroad.

Hitherto, as I have before pointed out, foreigners have taken but little account of our native architecture. It is only of late years, with increasing facilities of travel and, I may add, the improved relations with other countries which our gracious King and Patron has done so much to foster, that discovery is being made of the many magnificent buildings scattered over the British Isles, many of them possessing a distinction and character not found elsewhere.

In the sphere of domestic architecture particularly we can boast of much that excels anything else of the sort in Europe. From the mansion of the wealthy landowner situated in its own park to the homely cottage of the village labourer or artisan standing in a well-kept garden, often hidden behind the trim hedge of some picturesque lane, our rural landscape possesses a beauty and interest that cannot be surpassed. The atmosphere of peaceful repose in which our country towns and villages so often seem to be bathed—the effect of that reticence and love of seclusion which mark our countrymen—is a surprise, indeed a revelation, to those who have only seen life under other conditions, and possesses irresistible charms and attractions for many who visit us from other lands.

We ourselves have not shown due appreciation of these beauties of our native land. Not only are we, as a nation, fond of travel, but we are wont to extol everything that is foreign and depreciate everything that is our own. Foreigners, naturally enough, have taken us at our own valuation. It has been so in every department of art. Not until a man's work has been approved and commended by other nations is he recognised here as worthy of any honour.

I anticipate that the International Congress will go far to open the eyes of the public to much in their own land that they have not hitherto valued at its true worth. Let us make every effort to welcome our colleagues heartily and to do them all the honour we can, and thus contribute to draw closer the bonds of international esteem and friendship which knit us to them.

I make no apology for bringing before you once again the question of our street architecture in its hygienic aspect. The appearance of our public thoroughfares is commonly regarded as a mere matter of taste, and is not believed to have any bearing upon the health or morals of the people. In my Address last year I laid before you reasons for thinking otherwise, and I again press the matter upon your attention, because the proposals laid before Parliament by the Traffic Commission will, if adopted, afford a splendid opportunity for the application of better principles than have hitherto prevailed in this respect.

The formation of new main avenues and the widening of important thoroughfares to provide greater facilities for locomotion and transport imply new building frontages. Let the façades which are thus to be in the public eye, as it were, for many long years to come, be under proper control from the very first. The owners of land bordering on a public thoroughfare ought not to be at liberty to indulge an ill-regulated fancy for what is bad and false in architecture or vulgar and showy in appearance. Let there be a control set upon private caprice that our street architecture may be marked by that restraint, that unobtrusive simplicity, the result of serious and dignified thought, which may tend to produce like thought in the minds of those who look upon it.

The formation and widening of main arteries in great cities has another aspect. The work no doubt is primarily undertaken to provide for the ever-increasing demands of the traffic; but incidentally it assists materially in bringing a proper air-supply to the crowded

centre. The extension of the tramway system is driving from the suburbs many of the wealthier class who in the past have resided in suburban houses standing in many acres of land. These grounds are now being acquired by the speculating builder, who is busy running up small houses crowded together into the minimum space permitted by the Building Act. Thus the supply of air to the central parts is being blocked in every direction by a zone of over-built suburbs, and the danger in case of an epidemic of a malignant character is increased most seriously.

In some countries—for instance, Germany and the United States—State interference has been invoked to regulate the “extension of cities,” and I am glad to note that the authorities are seriously considering the advisability of similar legislation in respect of the suburbs of London. The attention of the public has been somewhat diverted from this larger subject to what is relatively a minor detail, viz. the character of the small villa residences referred to; but the interest taken in the so-called “garden cities” is evidence of an awakening to the importance of a graduated increase of air-space in proportion as the buildings recede from the centre of the city.

As Sir James Crichton-Browne said at the Sanitary Congress, “it is desirable that we should obtain control of the builder, and prevent the indefinite and unguided growth of the suburbs. We should then construct great leafy avenues, fine broad thoroughfares, stretching away into the immense ocean of beautiful air in the country.”

The laying-out of such avenues and thoroughfares is not entirely and solely a matter for the engineer and borough surveyor. The architect, and in certain cases the painter and sculptor, might with great public advantage be called in to collaborate with them. It is not the best way in such a matter to take an ordnance map and rule a straight line from one point to another. Yet such is, in essence, the course frequently adopted; and should any important building or object of interest come in the way, the engineer's motto is too often like George Stephenson's in respect of the cow that somebody suggested might trespass on his new railway: “So much the worse for the cow!” he is reported to have said.

There is a great deal more to be determined in connection with a new thoroughfare than the most direct route, the necessary gradients, the sanitary and hygienic requirements, &c.; there are artistic possibilities to be taken, as it were, into the public service, such as the opening up of suitable vistas, the bringing into prominence or the screening of existing buildings, the slight turning from the straight line to heighten the effect, or provide places for carriages to stand out of the line of traffic. These and other expedients which have been adopted in some foreign cities with admirable results—as pointed out recently by Mr. John W. Simpson in his interesting paper on the Laying-out of Cities—all fall within the proper function of the architect. So also, I venture to think, do the methods to be adopted in crossing squares and open spaces, and devices for lessening the points of collision from cross traffic, to which he referred.

With reference to divergence from the straight line, I may point out that though the method of straight lines and uniform buildings possesses many merits, and should be rigorously insisted on wherever a dignified approach is demanded, or stately and official requirements render it obviously advisable, yet to be effective this style of treatment must be limited and kept within due proportion to the purpose. Otherwise it ceases to be impressive. Mere repetition spells monotony, and a long straight street is appalling to the pedestrian, so that a break in the line of axis, such as a square or open space, is welcomed as a relief. It is often possible to introduce such features into a scheme with admirable effect and without breaking the line of route.

These are some of the special considerations which would naturally be referred to the architect when associated with the engineer in the laying-out of new streets.

The authorities need to be awakened to the fact that these matters have a commercial aspect which appeals to the practical mind. Art pays when properly handled: not anything and everything that is labelled Art; not the art which vaunts itself, but rather that which is concealed; the art which influences, controls, and satisfies by its sense of fitness; the art which, for instance, concentrates effects or subordinate parts in their relation to the whole; which seizes opportunities, or even difficulties, and turns them to effective account. In such wise can art bring enhanced value to schemes which would otherwise be merely utilitarian, and blank utilitarianism is apt to be disfigured by a brutal directness which is repulsive, or a bare and naked plight which is vulgar.

In the absence of a Minister of Fine Art with duly qualified advisers, an Art Commission similar to that which has been established in New York has been suggested. The Commission referred to has jurisdiction over all designs of municipal buildings, bridges, approaches, gates, fences, lamps, the lines, grades, and plotting of public ways and grounds, arches, structures and approaches, and other similar matters. It must be admitted that such powers as are here indicated can safely be placed only in the best and most capable hands; for, alas! what frauds, if not crimes, are perpetrated in the name of art!

False art has made many mistrust all art, and caused them to shut their eyes to the real value and influence of that which is genuine.

I believe, however, there is a better time coming. It is noteworthy as one passes through the country what an increasingly large proportion of the smaller class of houses have evidently been designed by architects. The builder is discovering that an architect's design is not an expensive and unnecessary luxury, but that the initial outlay is more than repaid if not in the actual building of the house—and this often happens—at any rate in the improved letting which results.

I cannot help remarking too upon the advantage which accrues to the architect himself in the process of studying and designing small houses. It certainly is not very remunerative work, but it has its compensating rewards. Any real advance must no doubt begin in small things before there can be a true appreciation of greater work. As the true qualities of architecture should be equally seen in small as in large buildings, they may perhaps be more easily grasped and understood by way of the less complicated problems.

Increasing knowledge will add to the number of those who appreciate and desire good work, and their sensitiveness in matters of taste will incite the producers to higher efforts, so that by action and reaction our native art will approach a higher level. Let us seek not merely to fan the growing interest in our art, but also to awaken a clear perception of its true qualities. It will not be long, I venture to prophesy, before public opinion will declare itself definitely and decidedly, insisting upon grace and refinement both in our public buildings and our important thoroughfares. Given such an opportunity, we may feel confident that our national architecture will not fail under the test, but will reflect the highest and noblest qualities of our race.

VOTE OF THANKS TO THE PRESIDENT.

SIR JOHN THORNYCROFT, LL.D., F.R.S.: Mr. President, Ladies and Gentlemen, I feel much honoured in being asked to propose a vote of thanks for the Address which we have now heard, and which I feel is of great interest. It touches on so many points, and so broadly, that it must arouse thoughts within us as to the propriety of things to which previously our attention had not been called. I feel this, that the architect has a great responsibility. We are largely indebted to him for our comfort, though he must not make us too comfortable, or we shall stop indoors longer than is good for us. I myself am an architect—a naval architect, and I feel this sad disadvantage, that while the architects of our houses on land add to our comfort, it is sometimes said that the temporary abodes we have on the sea adds greatly to our discomfort! With regard to what has been brought before us, there is one topic on which I should like to make a few remarks. I am glad to learn that our roadways are within the province of the architect; but the architect is so glad to have lots of ground to build on, that sometimes he encroaches on what I think should be the thoroughfare. In London we are widening our roads as far as we can, but I remember many places—the Euston Road for instance—where the houses were set back with a considerable amount of ground in front of them in the original plan; but unfortunately that has been departed from, and the buildings have been brought nearer the centre and a row of posts have been put down the middle, and any poor automobilist like myself who wants to get along the road now finds it very difficult. I feel that it is no good having handsome buildings to look at if there is no space to see them. There is another point which has not been alluded to in this Address—that is protection from fire. There have been one or two occasions when London has been really in danger, when all the resources of the fire brigade have been combating a large area of fire which had it spread a little more might have had serious and most alarming consequences. Not only for health but for safety from fire there should be provided green avenues through London, which would be most agreeable and would add to the safety of our city. There is another point I should like to call your attention to as an automobilist. The horse is rapidly disappearing in London, and a new condition is arising. When we are confined to horse power for propulsion through a town a hill is a great obstacle. When we are mechanically propelled through a city, where there are great cross tracks—such as at Park Lane and some other

places—it has been proposed by one of our eminent engineers that one line of traffic should go over the other. I should like to support that idea. If the inclination of the road is not beyond a certain amount (and that certain amount may be defined as the amount which is limited to propelling the vehicle at the speed required), the moderate inclination which may be used to cross one road by another is not extravagant at all if you do not have to put a break on going downhill. If you have the hill so adapted as to give the propelling power downhill, you will then about double the power necessary to get up; but it is only for half the time, so that the consumption of power is the same; and you get this advantage, that the one stream of traffic crosses the other without inconvenience and without stoppage. You may depend upon it the day is coming when we shall travel through cities much more rapidly, and the increase of speed necessary to give good roads for rapid transit will bring large tracts of big cities nearer together. I will not dilate further on this subject, but desire to say that I feel we are greatly indebted to our President, and I thank you very much for listening to what I have had to say.

SIR ARTHUR RÜCKER, D.Sc., F.R.S., Principal of London University: Mr. President, Ladies, and Gentlemen, I feel very much honoured by being called upon on a second occasion, after so short an interval, to take part in your proceedings, and I can only hope, as I think I hinted last time, that it is a sign of a growing closeness in the relations between the University and this great Institute. May I add one word, Sir, to a topic which has been already referred to several times this evening. Only twice in the course of my life have I had anything to do with the designing, or helping to design, a great building! One of those is comparatively recent; the other was when I was a quite young and unknown man; and then it was that my colleagues and I found Mr. Alfred Waterhouse, as architect of the Yorkshire College, to be one of the kindest men anyone could have to deal with; one who was ready to take hints from those who were many years his juniors and were only just entering on life. With regard to your Address, Sir, naturally the point which interests me most is the reference you made to the completion of the scheme of education on which I know the Royal Institute of British Architects has been busy for several years. I myself can bear personal testimony to the fact that every detail of that scheme has been considered most fully and thoroughly, and I can only congratulate you heartily on having

brought it to a conclusion. I sincerely hope that it may be a very great success, and that it may come to be regarded as the course through which the would-be architect must go. I am spending the greater part of my life at present in trying to co-ordinate various divergent interests and institutions, and I can only say that to me it is a very great pleasure to find that you, who I know had some difficulties at first, have succeeded in bringing to birth a scheme which has united various opinions, and that you have succeeded, as you told us to-night, in obtaining, not only the consent of the Institute, but the consent of a number of distinguished architects, all of whom, if I am not wrong, did not previously belong to it. This is a great work to have accomplished, and I am very glad that you have been good enough to associate the University with the Institute. You have associated it by means of a threefold cord: you have associated the University itself; you have brought in University College, which next year, in consequence of an Act of Parliament passed last Session, will be part of our University; and you have also brought in King's College, with whom we are at present negotiating, and in hopes that a similar happy result may be achieved. Therefore I am extremely glad that not only the Central University itself, but two institutions, of which one is and the other we hope may be in the closest connection with it, are united in this scheme. I am well aware that the relation of architectural to university education is a delicate and thorny question into which I will not enter to-night; but whatever is the body which conducts the education, and whatever is the institute which controls it, I believe that the main lines on which technical education is to be carried out must be laid down by the great masters of the art to which that education is intended to lead. I do not think it is right that outsiders should dictate how those who are to follow in your distinguished steps are to be taught, and I am delighted to find that so great a technical institution has taken a definite lead in providing education for those who are

to be the architects of the future. May I say that I thoroughly sympathise with Sir John Thornycroft in what he has said as to the way in which we are all compelled to take an interest in architecture? I remember hearing an admirable speech by the late Bishop Creighton, I think at one of your dinners, in which he used a phrase which stuck in my mind, viz. that architecture is the most democratic of all the arts; that it goes literally into the market place; that it is for everybody, and that rich and poor alike may enjoy it. I cannot attempt to quote the felicitous phrases in which he elaborated the theme, but the theme itself is one which I think we may all remember. All of us, whatever our line in life may be, rich or poor, humble or noble, owe a great deal to the architect, and if he fails in his task we fail to attain something which life might otherwise have given us. May I once more thank you for the opportunity you have given me of speaking on this occasion, and say that I wish every success to the great educational scheme which the Institute has devised.

THE PRESIDENT: Ladies and Gentlemen, I thank you for listening to me so patiently, and I thank Sir John Thornycroft for his remarks. As he states, he is a "brother architect" who has made things uncomfortable on the ocean, but I can assure him we on our side always do our best to make things as comfortable at home as we can. I am very much indebted to Sir Arthur Rücker for his valuable remarks on education and his compliments on the establishment of the Board of Architectural Education. I can assure him that we shall do our best to co-operate with him and others in the education of the architect at least. I think I ought to apologise to our visitors for the rather lengthy reference which I have been compelled to make to our own doings and affairs, but it seems inevitable on occasions like this. Moreover, in my effort to be "exhaustive" I fear I may also have been "exhausting," and I am glad to be able to add that provision is made for your recovery in the refreshment room downstairs, to which I now invite you.



9, CONDUIT STREET, LONDON, W., 11th Nov. 1905.

CHRONICLE.

The Opening Meeting.

There was a large and representative assemblage of members and their friends, including several ladies, at the Opening Meeting last Monday. Among the senior members present were three of the four surviving past Presidents—Sir Aston Webb, R.A., Sir William Emerson, and Mr. J. Macvicar Anderson. The President's Address was followed with interest and appreciation, and was warmly applauded at its close. His announcement that several distinguished members of the profession who had hitherto held aloof had signified their willingness to join the Institute and lend their aid in furtherance of the cause of architectural education, was received with hearty applause. For the information of those interested it may be mentioned that the Report of the Board of Architectural Education referred to by the President as having now been issued will be found printed in the prefatory pages ix-xv of the Institute KALENDAR.

The late Alfred Waterhouse, C. Forster Hayward, and Charles Lucas.

The proceedings at the meeting last Monday opened with the announcement by the Hon. Secretary, Mr. Alexander Graham, F.S.A., of the names of members deceased since the last meeting of the Institute on the 3rd July. The gaps in their ranks, he regretted to say, had been considerable, demanding something more from him than the mere formal announcement. The first on the list was the name of their Past President, Alfred Waterhouse, who passed away on the 22nd August, after a distinguished career full of honour to himself, and who was the recipient of many tokens of respect and admiration for his work as an architect and in other respects which had been alluded to in recent communications to the Institute JOURNAL. It was not within his province that evening to speak at any length of the distinguished career of their late lamented colleague. But he should like to say a few words with regard to his remarkable personality; his grace and charm of manner, which never seemed to fail him in his

communications with his fellow-men; his kindness and generosity to those who were associated with him in his daily work; his helpfulness and courtesy to members of the Institute who sought his advice on matters he was so competent to advise upon—matters connected with the building arts, of which he was so thorough a master. He might also speak of his life-long loyalty to the Institute—loyalty to its aims, loyalty to its aspirations, and loyalty to its operations. A letter had been already sent on behalf of the Council to his relatives, but he was sure the Institute as a body would wish to send a letter of sympathy with Mrs. Waterhouse and the family, expressing their heartfelt regret at his loss, and their appreciation of his excellent work—of the many monuments of architectural skill he had left behind him, and of the great and valuable services he had rendered the Institute during his long and successful career. He would put the matter as a formal Resolution. He was sure that no words of his could add to what was in the hearts of all, that they had lost in Alfred Waterhouse a great friend and a distinguished man. The vote having been passed in silence, Mr. Graham appealed to them all to hold in pleasant memory the name of Alfred Waterhouse.

Continuing, Mr. Graham said there was another name, equally familiar to them, of one who had passed away on the 5th July—Charles Forster Hayward, spending his last days in the pleasant retreat he had made for himself at the old Guest Hall at Lingfield, in Surrey, pleasant to so many of his intimate friends who had enjoyed there not only a hearty welcome, but very great hospitality on many occasions. Of the active career of Mr. Forster Hayward they all knew well, but perhaps their connection with him was more associated with his duties as District Surveyor, a post he held for a long period of years, having passed the examination as far back as 1857. He might go back some forty years ago when Hayward, in conjunction with John Pollard Seddon, acted as Hon. Secretary of the Institute, at a time when the Institute was in its infancy, or rather its youth, and when there was a great deal of work to do, which had had the most satisfactory results. He thought they should offer to Mrs. Hayward and the family some expression of sympathy with them in their bereavement, and appreciation of the services their lamented colleague had rendered the Institute in bygone days, and also their recognition of his work and his merit during a long and active career.

Having read out the other names on the list, all of which will be found recorded in the Minutes [page 20], Mr. Graham went on to speak of the irreparable loss the Institute had sustained by the death of M. Charles Lucas, whose name was so familiar to them. They all remembered from time to time when he visited London his cheery presence and the interest he took in their work—he might say the interest he took in

the work of the architects of all countries. He had passed away from them, but his memory would remain with them because he was one of the very few who were always prompt and ready with any information they wished to obtain, not only with reference to Paris, but to every part of France. No one who had ever come in contact with Charles Lucas and his delightful presence could ever forget him.—Sir William Emerson, *Past President*, having asked that a letter should be sent from the Institute to the family of M. Lucas expressing their sympathy and condolence, the President replied that such a message had already been sent by the Council on behalf of the Institute. The attention of members is directed to the Memoir of M. Lucas kindly contributed to the present number by M. Auguste Choisy.

**Seventh International Congress of Architects,
London 1906: Subjects for Discussion.**

The attention of members who were unable to be present at the Opening Meeting last Monday is particularly drawn to the President's remarks in the Address [pp. 5, 6] with reference to the Congress to be held in London from the 16th to the 21st July next year. Arrangements for the Congress are now in active preparation. The following are among the subjects to be brought forward for discussion:—

1. The Execution of important Government and Municipal Architectural Work by Salaried Officials.
2. Architectural Copyright and the Ownership of Drawings.
3. Steel and Reinforced Concrete Construction :
 - (a) The General Aspects of the subject.
 - (b) With special reference to the *Æsthetic* and *Hygienic* Considerations in the case of very high buildings.
4. The Education of the Public in Architecture.
5. A Statutory Qualification for Architects.
6. The Architect-Craftsman: How far should the Architect receive the theoretical and practical training of a craftsman?
7. The Planning and Laying-out of Streets and Open Spaces in Cities.
8. Should the Architect have supreme control over other artists or craftsmen in the completion of a National or Public Building?
9. The Responsibilities of a Government in the Conservation of National Monuments.

The Executive Committee will be glad to receive Papers on any of the above subjects for presentation to the Congress. Papers can be written in English, French, or German. Each Paper must be accompanied by an abstract of not more than 1,000 words. Papers and Abstracts must reach the Executive Committee before the 30th April, so as to allow time for printing.

All communications should be addressed to the Secretary of the Executive Committee, 9 Conduit Street, London, W.

The Statutory Examinations: October 1905.

The Annual Examination of Candidates seeking qualification to act as District Surveyors under the London Building Act 1894, or as Building Surveyors under Local Authorities, was held by the Institute, pursuant to statute, on the 19th and 20th ult. Eighteen candidates presented themselves for examination—fourteen in the former category and four in the latter. The following passed and have been granted by the Council Certificates of Competency to act as District Surveyors under the London Building Act, viz.—

FILLARY, ANTHONY ALBERT; of 9 Denmark Street, London Bridge.

KNIGHT, EDGAR WALSH; of Birkbeck Bank Chambers, Holborn.

PALSER, EDWIN; of 180 Acre Lane, Brixton.

SPENCER, HARRY TOM BODEN [*d.*]; of 14 Sunningfield Road, Hendon.

WOODWARD, ALEXANDER LIONEL; of 9 Kennington Oval.

The following has been granted a Certificate of Competency to act as Building Surveyor under Local Authorities:—

STANTON, WILLIAM JOHN; of 78 Hampden Road, Hornsey.

The Visit to Newcastle-on-Tyne and Annual Dinner.

The visit of members to Newcastle-on-Tyne in the second week of October will be remembered by all who took part in it as a most interesting and agreeable excursion. The Northern Architectural Association, which has its headquarters in the city, had undertaken the preparation of the programme, and very admirably were its details planned and carried through by a Committee of the Association under the direction of their Hon. Secretary. The thanks of members will be warmly accorded to this Committee and the various officers of the Association, to the Mayor and Mayoress and the members of the City Council, to the gentlemen whose ciceronage contributed so largely to the interest and enjoyment of the various visits and excursions, and especially to the energetic Hon. Secretary of the Association, Mr. A. B. Plummer [*F.*]. Members were the recipients of much hospitality and many courtesies, and they could not but be sensible of the time, care, and thought that had been so freely lavished to ensure their comfort and entertainment, and the success of the meeting also as a professional gathering.

The main body of London visitors travelled down by an early afternoon train on Thursday the 12th, to arrive in time for the reception given in honour of the Institute by the Mayor of Newcastle (Alderman J. Baxter Ellis) and the Mayoress in the Grand Assembly Rooms. A large and distinguished company were present, including, besides members of the profession, the Sheriff of Newcastle and Mrs. Scott, Alderman Sir W. H. Stephenson, Alderman Newton, Dr. H. E. Armstrong, Sir

George Hare Philipson, Alderman W. De Lacy Willson, the Mayors of Gateshead, Jarrow, Tynemouth, and Wallsend, and various members of the Newcastle City Council—in all some four hundred guests were present. The rooms were tastefully decorated with palms and festoons of plants and flowers, and a selection of music was played during the evening by the Royal Orchestra of the City.

The programme for Friday the 18th included an excursion on the Tyne, luncheon with the Northern Architectural Association, visits to historic and other buildings of interest in Newcastle, afternoon tea at the formal opening of the new Rooms of the Association, and the R.I.B.A. Annual Dinner. For the Tyne excursion a steamer had been courteously placed at the disposal of the Institute by the Tyne Commissioners. The visitors had been increased by numerous arrivals from Edinburgh, Glasgow, Leeds, and other Northern cities, and a considerable company joined the excursion. After a run up the river beyond the Elswick Works the steamer returned and took on board more visitors, and then proceeded down the river to Tynemouth. Landing at the North Pier, a thoughtfully provided covered-in conveyance to the Haven preserved the visitors from an inevitable drenching by the spray of the heavy seas dashing against the pier. The interesting remains of the old Priory having been inspected, the party entered the Lady Chapel and listened to a brief sketch of the history of the Priory from Canon Hicks, Vicar of Tynemouth Priory. Further particulars of the building, illustrated by a plan, were given by Mr. W. H. Knowles [F.]. The return journey to Newcastle was made by electric train.

Luncheon at the invitation of the N.A.A. took place in the Grand Assembly Rooms, Barras Bridge, Mr. James T. Cackett, President, in the Chair. The toast of "The N.A.A." was proposed by the Institute President and briefly responded to by Mr. Cackett. In the afternoon the following buildings were visited under the guidance of Mr. B. O. Heslop and Mr. A. B. Plummer:—St. Nicholas' Cathedral, the Black Gate and Crypt, the Castle Keep and Library of the Society of Antiquaries, the Guildhall, Trinity House, and All Saints' Church. Mr. Parker Browis gave an interesting description of relics preserved in the Castle, and conducted some of the party over the old gatehouse. Canon Carr, Vicar of All Saints', showed various objects of antiquarian and historic note preserved in his church.

Afternoon tea was taken in the new rooms of the Northern Architectural Association in Higham Place. Mr. Cackett presided, and in a brief address stated that the Association was established in the year 1858, and that was the first occasion they had ever met in premises of which the freehold was their own. It seemed, he said, extremely appropriate that they should have the honour of entertaining the President, Council, and so many members of the R.I.B.A. at this time. They were

very much indebted to their old friend and past President, Mr. Glover, for his generous benefactions. Roughly speaking, he had given £967 towards the building, and, in addition to that, they had had £350 subscribed, making the total cost of the premises about £1,330. They hoped to get more money to make the rooms more suitable. Mr. Glover had also presented them with £500, the interest to be devoted to educational work in the form of studentships. The upper rooms would be used as a library, for which they were again indebted to Mr. Glover. In the upper rooms classes would be held and the Institute examinations take place. Mr. Cackett expressed the pleasure it had given the Association to receive the Institute, and hoped the visitors would go away with pleasant recollections of Newcastle.

Mr. John Belcher, A.R.A., referred to Mr. Glover's splendid gifts, and said he should like to have seen Mr. Glover there that day to thank him, not only for giving so much towards those rooms and the work that was done there, but also for his gifts to architecture generally. He hoped these gifts for educational purposes would bear good fruit, and that many good architects would be produced in Newcastle in the future, as there had been in the past. Mr. Belcher then formally declared the rooms open.

The Laing Art Gallery, a new building from the designs of Messrs. Cackett & Dick, was afterwards visited.

The Annual Dinner of the Institute was held in the evening at the Old Assembly Rooms, Westgate Road. The President, Mr. John Belcher, A.R.A., presided, and the company numbered between 130 and 140 guests. The President was supported on his right by the Duke of Northumberland, K.G.; Sir Aston Webb, R.A., *Past President*; Mr. Henry T. Hare, *Vice-President*; Sir George Hare Philipson, M.D.; Sir Walter R. Plummer, M.P.; Mr. John Slater [F.]; and the Mayor of Tynemouth. On the left of the President were the Bishop of Newcastle; Mr. J. T. Cackett (President of the Northern Architectural Association); the Deputy-Mayor of Newcastle, Mr. Edwin T. Hall (*Vice-President*); Mr. George Renwick, M.P.; Mr. T. E. Collett [F.]; and the Mayor of Gateshead. The other guests included Messrs. Maurice B. Adams, Dr. Armstrong, Harry Barnes [A.], E. R. Barrow [A.], C. E. Bateman [F.], J. A. Bean, Geo. Bell, J. W. Benwell and guest, Hippolyte J. Blanc, R.S.A. [F.], J. W. Boyd, J. W. B. Boyd, Parker Browis, C. H. Brodie [F.], G. T. Brown, P. L. Brown, J. Bruce, G. B. Bulmer [F.] (President Leeds and Yorkshire Architectural Society), J. J. Burnett, A.R.S.A. [F.], W. D. Caroe, M.A., F.S.A. [F.], John Cash [F.], W. A. Chamberlain, H. C. Charlewood [F.], R. F. Chisholm [F.], A. H. Crawford [F.], A. W. S. Cross, M.A. [F.], W. St. L. Crowley [A.], H. Davis [F.], R. Barnes Dick, F. M. Dryden, Cyril Dyson, J. W. Dyson, C. S. Errington [A.], W. E. Fenwicke, C. B. Flock-

ton [F.], J. E. Franck [A.], J. Garry [F.], Sir Alfred Gelder [F.], Alexander Graham, F.S.A. (Hon. Sec. R.I.B.A.), M. H. Graham, Henry Grieves [A.], F. H. A. Hardcastle [A.], F. E. L. Harris [A.], Stockdale Harrison [F.], F. R. N. Haswell [F.], H. T. D. Hedley, J. M. Henry [F.], J. W. Herring, J. J. Hill, C. C. Hodges, E. Francis Hooper, Francis Hooper [F.], Jesse Horsfall, Geo. Hubbard [F.], the Mayor of Jarrow, John Keppie [F.] (President Glasgow Institute of Architects), W. H. Knowles [F.], Robert Kynoch, C. F. Lloyd, W. J. Locko (Secretary R.I.B.A.), F. W. Marks [F.], Leonard Martin [F.], M. G. Martinson, G. A. T. Middleton [A.], T. R. Milburn [F.], W. Milburn [F.], J. B. Mitchell-Withers [F.], J. H. Morton [F.], C. F. Newcombe [A.], W. Lister Newcombe [F.], J. L. Nicholson, G. D. Oliver, W. W. Oliver, H. Oswald, Joseph Oswald [F.], S. Perkins Pick [F.], Arthur B. Plummer (Hon. Sec. N.A.A.) [F.], A. N. Prentice [F.], Norman Ramsey, Geo. Reavell [A.], Matt. Reed [A.], Frank W. Rich [F.], Roland Rich, S. D. Robins, T. Taylor Scott [F.], Geo. Sherrin [F.], E. Shrewbrooks [F.], John W. Simpson [F.], G. R. Smith [A.], J. Osborne Smith [F.], Prof. R. Elsey Smith [F.], A. Saxon Snell [F.], J. Spain, A. W. Tanner [A.], H. O. Tarbolton (President Edinburgh Architectural Association) [F.], A. K. Tasker, Andrew T. Taylor [F.], J. Walton Taylor [F.], H. Temperley, W. Tweedie, R. P. S. Twizell [A.], J. W. Wardle, John White [A.], W. Henry White [F.], Butler Wilson [F.], John B. Wilson [A.], Alderman John M. Winter, G. P. K. Young [A.].

During the evening a selection of music was excellently rendered by the band of the Northumberland Hussars. The toasts, besides the usual loyal toasts, were restricted to two—viz. "The Royal Institute of British Architects and Allied Societies" and "The Guests."

The Duke of Northumberland proposed "The Royal Institute of British Architects and the Allied Societies." He said that, speaking for the Allied Society in the Newcastle district, they offered a hearty welcome to the Institute. They welcomed them to the North country, and, so far as he could understand from the proceedings of the day, they had done their best to show them as much of Tyneside as they could, and had given them every facility besides for catching cold; for he could not understand why they should have selected the coldest weather of the season so far, though that was no doubt a circumstance beyond their control. If, on the other hand, he was to speak for the Institute, he should say that the local Associations were a matter of great interest to the Institute, and that it was by strengthening its local Associations that the real work of the Institute was to be carried on. And if he was to speak—and that he supposed was his proper function—for the general public, who belonged neither to the Allied Societies nor to the Institute, all he could say was that the public recognised very warmly the good work

which both were doing, and they were very glad to see the architects making themselves acquainted, so far as possible, with the requirements of all parts, and, on the other hand, placing their knowledge and experience at the disposal of the public. He sometimes thought that for the young man who adopted the career of an architect there must be food for great discouragement. He did not think that any young architect could hope to do very much better, say, in ecclesiastical architecture than people did five hundred years ago. And perhaps he was prejudiced because he happened to live in a castle—but he very much doubted, so far as the æsthetic side of military architecture was concerned, whether they could do much better than some gentlemen of their craft of former days had done in that direction. When they came to rather later times, and looked at their fine old English manor houses—doubtless the modern architect might give them fewer steps to go up and down, and their sanitary arrangements might be better; but he very much doubted—if they would forgive him the scepticism—whether they could give them anything more picturesque or more thoroughly English. Therefore he said to the young architect, if he reflected in this way, he might be a little bit discouraged. But if he would go on a step further, he thought the young architect would find a great field for his ingenuity and his study even in this matter-of-fact twentieth century. He saw present among them many representatives of great municipalities, and he would venture to suggest that England in the old days did not shine particularly in her great public buildings. Of course they had some very fine public buildings—Westminster Hall, for example, and other buildings of that sort—of which they were all very proud; but he thought, as compared with foreign nations, England was in ancient times rather deficient in public buildings, and he believed that in that direction there was a great field for ingenuity and genius. But there was a still higher field for their efforts in perhaps what some at first sight might call a humble line, but one which he believed was at least as important as any other they could engage in. He referred to the housing of the masses of the population throughout these realms. That was a problem which was not always submitted to the architect. It was too often left to the builder. And he presumed it was at least one of the functions of the Institute so to model and educate public opinion, and still more to educate the opinion of the profession, as to secure that standard of building which would provide the people with dwellings equal to the civilisation we professed to have attained to. That was a problem which had not yet been solved. Whether it was solvable or not he did not know. He could only say, as one who had tried to a certain extent to build houses, that to build a good, sanitary, comfortable house for the working classes at a price

which would pay a reasonable return on the outlay was, he would not say impossible, but very difficult indeed. It seemed to him that in this direction there was a large field for the genius of the rising generation of architects. If the architect had no chance of exceeding the ability of his ancestors in the æsthetic side of art, there were claims upon him now which did not exist in the days when they cared very little how the poorer classes of the population were housed, and he had now at his disposal all the stores of appliances, all the stores of materials, which those who preceded him had not. There was another opening he would allude to, viz. the opening which was afforded by the zeal of the Board of Education. The Board of Education imposed upon local authorities a very large number of buildings, and he did not think they always grasped the full necessities of the case; but he would suggest that the members of the Institute, and those whom they trained, might very well devote, as they no doubt did, a great part of their attention to assisting local bodies in the effort of meeting the requirements of the Board of Education at some reasonable rate, and without the necessity of disfiguring the landscape with horrible structures of which he did not think any of them would approve. He could only express on behalf of those for whom he spoke their sense of the services which the Institute rendered, not merely to art, but also to absolute and essential necessities of life. It was by the exertions they had made, by the success of their efforts, by their energy in such visits as they were now making, that they confidently believed the architects were attaining to a high standard of architectural work and science. There was no doubt an unlimited field for their exertions in the future. He was sure of this, however, there was no body of men upon whom the welfare of the country so much depended as on those who had charge of the buildings in which they lived and had to transact their business.

The President, in responding, said they appreciated the manner in which his Grace had spoken of their work and the matters which concerned them so deeply—the housing of the poor, education, and other matters they had so much at heart—and no doubt his words would bear fruit. As the representative body, the Institute realised its responsibilities, and recognised that any advance in their position as architects would be as the members of the Allied Societies and of the Institute stood shoulder to shoulder. Art flourished best in an atmosphere of peace, and their work would excel as they cultivated cordial and brotherly relations. They might have differences of opinion sometimes, but these, he thought, might be regarded as a sign of healthy vitality. They might differ, for instance, with regard to registration, but they were all agreed that the education and training of the architect was absolutely necessary. Ample provision was being made for such education and

training. All they had to do was to find sufficient inducement for the qualification. The Council of the Institute had no intention of allowing this matter to rest, and they had already appointed a sub-committee to take evidence and to consider the possibility of coming to a conclusion which would satisfy all. He regretted that the Mayor, having to attend another function, was not able to be present with them that evening. But he wished publicly to thank his Worship and the Mayoress for their kind reception of the members of the Institute on the previous evening. It was satisfactory to feel that the Institute was in close touch with the municipal authorities everywhere; that, owing to the nature of their work and training, they were able to give good counsel and advice and assistance, and to co-operate with the municipal authorities in those public works which were for the good of the community at large. They were always willing, as architects, to furnish voluntarily advice and assistance in such matters as occasion might arise. He also wished to thank those gentlemen who had done so much to make their visit pleasant. Newcastle was a city of great interest to them. It had been regarded, he believed, as a dull, black place, but they found it full of picturesque beauty. The first objects that caught their eyes as they approached the city were the old Norman "Keep" and the lantern tower of St. Nicholas' Cathedral, whose beautiful corona was not excelled by any of its rivals. The buildings which rose from the water's edge in serried ranks were worthy of being seen and studied from various points of view. Looking down from that wonderful engineering achievement, the railway viaduct, whether by day or in the dusk of the evening when the lights of the shipping mingled with the lights upon the shore and the hillside, the view was romantic and fascinating. The bridge itself embodied all that was attractive in engineering work. Its boldness, its daring, its directness of purpose, all appealed to them. He had no doubt that when Stephenson's work was in progress it must have very much astonished the citizens of Newcastle, and have alarmed them lest it should destroy the appearance of their city. But he could not help feeling that the bridge was an addition to its attractiveness, as much, perhaps, as its usefulness had added to the importance and prosperity of the city.

Mr. J. T. Cackett, President of the Northern Architectural Association, responding on behalf of the Allied Societies, said the objects of the Allied Societies and of the Institute were the same—viz. to encourage the association of architects throughout the country and to advance the knowledge of the art and science of architecture. But there was this difference between them, that the Allied Societies worked in a very much humbler sphere. The R.I.B.A. worked in the metropolis of the world, and the Northern Architectural Association worked in the northern metropolis of Eng-

land. So far as education was concerned, they had excellent facilities at the College of Science for passing through the curriculum of the Royal Institute; and, in addition, the Northern Architectural Association held classes and offered prizes, and they were advancing very steadily, he might say, in the way of education of the future generation of architects. He had no doubt that the other Allied Societies were also making progress in this direction. Another difference between them he should like to allude to; the President had already referred to it: the London County Council was consulting the architects with regard to new streets and thoroughfares and other improvements in the metropolis. It was very pleasant to note the results of that consultation and the effect of the advice that had been given. He expressed the hope that all local authorities would adopt the same principle. He was sure that nothing but good would follow.

Sir Aston Webb, R.A., proposed the toast of "The Guests." He said he was honoured by being entrusted with the "other toast of the evening." They were all delighted to see their guests there. But he felt very like a guest himself rather than a host. Their Newcastle friends had been so kind to them that he really thought they had been their hosts and the members of the Institute had been their guests. But, for the moment he would ask them kindly to consider themselves as their guests. They were grateful to the Duke of Northumberland for coming there and speaking as he had done. It would ill become him in that northern city to say anything about his Grace, but they in the South also knew him as the wise and sagacious President of the Royal Sanitary Institute, and that in many other ways he had always shown himself ready to take an interest in and to devote his time to the welfare of the people. They were honoured also in having representatives of the Church and the State and the municipalities. The Church, in which they recognised a generous and discriminating patron, was represented by the Bishop of Newcastle, and they thanked him also for coming among them. They had had the delight of visiting the cathedral and of seeing for themselves the tower which had always won the enthusiastic admiration of architects as being a unique example in the daring of its construction and in the grace and beauty of its design. And they had all delighted in the exquisite woodwork of the interior by the late Mr. Johnston, admirably carried out by Mr. Ralph Hedley. He felt sure that any city would be proud of having two citizens who could beautify their city by work which would remain the object of admiration for centuries to come. They had also representatives of the city in the members of Parliament, whom they also thanked for having come. Architects, he supposed, were not especially active in politics, but they certainly, as Englishmen, admired the self-denying labours of their members

of Parliament, and consoled with them in the late hours they had to keep. There were some among them who seemed inclined to add to those labours by asking Parliament to take some interest in their affairs. Personally he was bound to say that he thought they had already enough to do; and perhaps it would be better if they tried instead to manage their own affairs; but that was another story. They had also representatives of the great municipalities there, and he thought, as the Duke of Northumberland had said, that they must look in the future—and they architects naturally did look—to the municipalities for the greater portion of their work, for the great builders of the future would be the great municipalities. He had heard it whispered that Newcastle had its castle in the air, and that some day it would take form in the shape of a new town hall. But, at any rate, they took an interest in almost all the work which their municipalities had to do, and they recognised the care that they took for relieving the poor and for providing clean, healthy, and sanitary dwellings. They looked to them also, and believed that in time they would turn their attention to the beautifying of their towns. Architects believed that it was the duty of the municipality not only to attend to hygienic matters, but also to provide spots of beauty in every town where men could come out and breathe the air and see the sky, and the green trees, the fountains and the flowers in their beauty and colour—some spot where men could pass through with a smile. He was afraid that in some of our towns at present men were apt to pass through with a sigh on their lips, or something even worse; and they hurried through them without any feeling of hope, and left them without regret. There was a dull monotony about our towns, though architects were ready to place their services at the disposal of municipal corporations; and each city had its own men of taste, architects and others, who were able and willing to advise them on these public improvements. They certainly hoped that in future their municipalities would avail themselves of that advice, and that, even if they had to come upon the rates for something, the aesthetic side should not be altogether forgotten.

The Bishop of Newcastle, responding for the Guests, said they considered it an honour and delight to have been among them that evening. Personally it was no little pleasure to him to be associated in that or in any other way with such a noble profession as he believed theirs to be. Some of his best friends in life had belonged to their profession, and he owed a great deal, in more ways than one, to those of their profession whom he had had the pleasure of knowing. But, apart from that, he thought they owed a very great debt of gratitude to the architect's noble profession—certainly, speaking for his own part, Church folk, and clergy amongst Church folk most of all. What did they not owe to those who had devoted

their noblest conceptions to the ennobling of the human kind? He had said that their art was a noble one, for surely anything was noble which tended to the elevating and ennobling of other people. And if it be true, as he held it to be true, that a thing of beauty—whatever it might be and wherever they might have it—had an ennobling influence, then he thought that architecture must hold the very highest place in these highest fields of beauty. He believed—indeed, he knew it from his own experience to be a fact—that beautiful buildings in the most abject surroundings of poverty and misery had a very far-reaching and ennobling effect. And he thought a beautiful church must have the most ennobling effect of any building they could put up. A beautiful building would appeal, almost unconsciously, to the passer-by, and it was this that made them so indebted to their profession. He should even be tempted to envy the possessor of the mind and heart that could conceive any great thing: the man of science when he felt himself on the brink of a great discovery, the joy and excitement of feeling that he was not only to be a discoverer, but that by his discovery he was to exercise an enormous influence for good amongst his fellows; the musician who could conceive beautiful pieces of music; the painter who could conceive some magnificent picture; and the architect who could conceive in his mind some magnificent idea, like some beautiful cathedral. He was sure they would sympathise with him when he said he pitied very much the architect who had a great idea in his mind and was not allowed to work it out; or if when the work was growing under his hand in the middle of it fresh ideas came to him he was not enabled to embody them. That must be a very irritating thing, and one of the chief difficulties to men of their position. He urged that in the work of educating the younger men who were entering the profession they should keep before them a high ideal. The higher the profession, the greater the fall if they allowed themselves to get down from the high ideals. It should be their aim to think, not what they could get out of it, but what they could put into it.

For Saturday, the 14th, arrangements had been made for visits to Durham Cathedral and to Hexham Abbey. As it was not possible, however, in the time at disposal for the same party to visit both places, and as the majority expressed a preference for Durham, the Hexham excursion was by general consent practically abandoned. The tour of the Cathedral was made under the happiest auspices. Mr. G. Hodgson Fowler [F.], architect to the diocese, who acted as cicerone, has the history of the building at his fingers' ends and an intimate acquaintance with almost every stone of the venerable fabric. The visitors were favoured by their guide with an historical sketch of the building and a description of the vicissitudes it

had passed through since its foundation. Every nook and corner was visited, and every feature of interest pointed out and explained. After luncheon the visitors were shown over Durham Castle, again under Mr. Fowler's appreciated guidance.

Except for the weather—which was perhaps a little too Arctic to be altogether enjoyable by the Southerner—it is satisfactory to note that the excursion to the Northern city is pronounced a success by all who participated in it.

Mr. William Glover's Gift to the Laing Art Gallery.

To celebrate the visit of the Institute to Newcastle-on-Tyne, Mr. Wm. Glover [F.], Past President of the Northern Architectural Association, has offered to the Corporation of Newcastle a sum of £500 in trust to invest and apply the income therefrom to the purchase of works of art by local artists to be added to the Laing Art Gallery. Local artists, he suggests, should be taken to be those of Newcastle, Northumberland, and Durham.

Collaboration of Sculptor and Architect.

It is a hopeful sign of the progress of the arts in this country that an architect should have been called in to collaborate with the sculptor in designing the monument to Mr. Gladstone just opened to public view in the Strand by Aldwych. The importance of sculptor and architect working together has been often insisted on at the Institute. As was admitted by an eminent sculptor in the rooms of the Institute only a few months ago, some sculptors do not understand what architecture is, and dreadful mistakes have been made owing to their want of proper architectural feeling. Mr. John Stevens Lee, who is responsible for the architectural details of Mr. Hano Thornycroft's statue to Mr. Gladstone, is a young Associate of the Institute who won the Tite Prize a few years ago.

Exhibition of Architectural Refinements.

Mr. L. Ingleby Wood, Hon. Secretary of the above Exhibition, held under the auspices of the Edinburgh Architectural Association, writes that should any members of the Institute require copies of the Exhibition Catalogue they should apply personally to him at an early date, as there are only a few for disposal. The book is not only a Catalogue of the Exhibition, but an exhaustive treatise upon the subject of Architectural Refinements. The price, with postage, is 1s. 4d., and payment should be made by P.O. or cheque. Mr. Wood's address is 122 George Street, Edinburgh.

Coal Smoke Abatement.

The question of finding some practical means for abating the nuisance caused by smoke will be discussed by members of the Royal Sanitary Institute and the Coal Smoke Abatement Society at

a Conference to be held next month in the Royal Horticultural Society's New Hall, under the presidency of Sir Oliver Lodge. The sections of the Conference to consider (i.) Domestic Smoke Abatement; (ii.) Factory and Trade Smoke Abatement; and (iii.) the Administration, Legislation, and Necessary Reforms, will be presided over by Sir George Livesey, Sir William Procco, K.C.B., and Sir William Richmond, K.C.B., R.A., respectively. The municipal authorities throughout the kingdom have been invited to send delegates. In connection with the Conference the Royal Sanitary Institute are arranging an Exhibition of Smoke Abatement Appliances. The exhibits will include heating and cooking appliances by gas or electricity; grates, stoves, mechanical stokers, and fuel economisers, and other trade and municipal appliances for the prevention of smoke. Endeavour will be made to bring before the Conference the measures that are now being taken to lessen the smoke nuisance, and also the alternatives to the use of solid fuels in the home as well as the factory.

THE LATE CHARLES LUCAS.

Le JOURNAL DU R.I.B.A. s'est fait l'interprète des sentiments de profonde douleur qu'a causée la perte du regretté Charles Lucas: les lecteurs aimeront à connaître avec quelques détails la carrière de celui qui fut pendant plus de vingt-quatre ans un lien entre le R.I. et les architectes français, et dont la mémoire est pour tous ceux qui l'ont connu le souvenir d'un ami.

Charles Lucas naquit à Paris le 8 avril 1838. Il eut comme premier maître son père, Achille Louis Lucas, architecte d'un rare mérite; et, lorsqu'il aborda l'École des Beaux-Arts sous la direction de Constant Dufeux, il était préparé aux études techniques par un fond solide de connaissances littéraires et scientifiques sanctionnées par des grades universitaires.

Dès ce moment se manifestèrent les dispositions personnelles qui le portaient à envisager l'architecture par ses côtés humanitaires. Comme s'il eût senti que son rôle devait être d'obliger ses collègues et d'améliorer le sort de tous, il s'attachait à connaître dans le passé l'histoire de la profession à laquelle il se destinait; et, pour éclairer ce passé, il menait de front avec ses études de l'École des Beaux-Arts, les travaux de l'École des Hautes études historiques.

Comme architecte, les œuvres qui le passionnaient étaient celles dont il sentait la portée sociale: les écoles. Il collabora à la création de plusieurs des plus excellents groupes scolaires de Paris, et notamment à ceux des rues Fondary et de Tolbiac. Deux écoles professionnelles, qui sont de tout point des modèles, sont entièrement son œuvre, celle des industries du Livre et celle des industries de Mouble: l'école Estienne et l'école Boule. L'école Boule l'eut non seulement comme

architecte, mais aussi comme professeur; et les habiles ouvriers qu'elle a formés gardent un souvenir ému des leçons où il leur posait les principes de leur art en leur en retraçant l'histoire.

L'enseignement, Lucas le regardait comme un apostolat. Toutes les associations qui tendent à éclairer les questions sociales ou historiques, le comptaient parmi leurs membres les plus actifs. On le trouvait à la société d'Hygiène et de Médecine publique; à la société d'Économie politique et sociale; à la Commission municipale du Vieux Paris. Partout où se traitaient des problèmes d'intérêt moral, il se prodiguait; il n'y avait guère de congrès dont il ne fût l'âme. A l'Exposition de 1889, il accepta la laborieuse fonction de rapporteur de la classe d'Économie sociale; à la préfecture de la Seine il fut le rapporteur du Comité des Habitations à bon marché; et cette double mission nous a valu deux livres qui resteront comme des monuments durables. Le rapport sur les Habitations ouvrières est tout un traité où l'on pourra longtemps encore puiser des principes et des exemples.

Cette tendance à prendre l'architecture par le côté social fit de Charles Lucas un légiste hors ligne. La rédaction du Manuel des Lois du bâtiment lui est due pour une très large part; et les connaissances juridiques qu'il avait si bien coordonnées trouvèrent leur application dans les nombreuses et délicates expertises que les tribunaux lui confiaient.

L'œuvre à laquelle il voua les dernières années de sa vie fut une fondation de confraternité: la Caisse de défense mutuelle des Architectes. Les droits de la propriété artistique lui tenaient au cœur; et si, comme il faut l'espérer, ces droits reçoivent un jour la sanction de règlements internationaux, ce grand progrès sera un digne couronnement de ses infatigables efforts.

Cette activité débordante, qu'il dépensait sans compter dès qu'il s'agissait des autres, hâta sa fin; et, déjà sous le coup du mal qui l'enleva, ses amis le virent, avec une admiration mêlée d'effroi, se soumettre aux fatigues d'un long voyage pour s'associer au succès d'un collègue et donner une conférence qui, hélas! devait être la dernière.

En retour de tant de services Lucas recueillit des témoignages sans nombre d'une estime universelle. Outre le titre de membre du R.I.B.A., qu'il regardait comme le premier de ses titres, il comptait parmi les membres des académies de la Belgique, de l'Italie, de l'Espagne, du Portugal, de l'Amérique. La plupart des sociétés savantes de la France se l'étaient associé; et, à côté des distinctions honorifiques de son pays, il portait les ordres de Charles III d'Espagne et du Christ de Portugal.

La Société Centrale des Architectes français, où sa présence a laissé une trace ineffaçable, lui avait décerné des médailles rappelant son concours au Manuel des Lois du bâtiment et à la création de la Caisse de défense mutuelle. Cette médaille, qui lui fut décernée il y a quelques mois à peine, fut la

dernière distinction dont il fut l'objet : sa grande, son impérissable récompense est la sympathie qui lui survit.

Paris.

AUGUSTE CHOIST, *Hon. Corr. M.*

REVIEWS.

FLATS.

Residential Flats of all Classes, including Artisans' Dwellings. A Practical Treatise on their Planning and Arrangement, together with Chapters on their History, Financial Matters, &c. With numerous illustrations. By Sydney Perks, F.R.I.B.A. La.Soc. Lond. 1905. Price 21s. [D. T. Batsford, 24 High Holborn, W.C.]

This work breaks into literary ground which, having regard to the importance and interest of the subject, may be said to have been up to the present time scarcely touched. Notwithstanding that the problem of housing all classes of the population of great modern cities is so constantly before us, no book of any pretensions upon its solution in the manner in question has yet appeared. If any proof of the claim of the subject to such attention be needed, a cursory glance only at this volume will supply it.

After a brief retrospect, commencing at the storied dwellings on the "insula" of Ancient Rome, arising out of the needs of an ever-expanding population within a non-expanding ring-wall, the author gives us an exhaustive description of "residential flats," from the humblest to the most luxurious, erected of late years in London and other great capitals. In this he has been fortunate in obtaining the assistance of many eminent architects, who, in a spirit of generosity which belies much that we hear to the contrary of the profession, have furnished him with drawings and valuable information relating to buildings of the kind for which they are responsible, and for which free acknowledgment is made.

Paris, where the advantage of a study of the problem, as regards the better class of such accommodation, extending over a much longer period than has been the case in our own capital, is shown in the admirable artistic results produced, is well represented in the illustrations. The author has also carried his researches to Vienna, Rome, Madrid, Amsterdam, and other great Continental cities, as well as to America. Dealing with London, we are taken from Kensington to Poplar, from Brixton to Hampstead, from the humble tenement at a weekly rent to the princely flat commanding rentals of 800*l.* per annum, and introduced to the efforts of many clever planners. This portion of the work is accompanied by a running commentary showing a very close study of the subject.

A chapter on practical points follows, such as management, finance, outgoings, rating, porters, lighting, and many others, which may appear small to the uninformed, but a study of which

will avoid many pitfalls. Some useful figures as to rentals and a list of forms of agreement are added.

The author writes in a style which, whilst making no pretence to high polish, is all that the subject requires. Being terse and almost conversational in manner it is pleasant reading and calls for no effort. With commendable modesty there is an entire absence of egotism in expressing opinions, the first personal pronoun being conspicuously absent. A reader wishing to identify the author's designs is left to rely on his own cunning.

The book is dedicated to Mr. J. Douglass Mathews in terms which fully explain and justify the choice. The publishers have put the volume into a handsome setting, with good paper and wide margin. It should prove an excellent investment to the profession.

E. GREENOP.

MEDIÆVAL ESSEX BUILDING.

Mediæval Architecture in Essex. By Ernest Goodman. Published by the Author at Sunnyside, Banstead, 1905. 8vo.

The natural features of the county of Essex—the clay and chalk soil, the absence of a building stone, the presence of much timber—were balanced to a certain extent in mediæval times by the geographical position and the more ancient Roman occupation. These resources and restrictions, and their consequent influence on church architecture, form the matter of four short essays, which, with numerous drawings and photographs, comprise the above volume.

The Roman occupation served a twofold purpose: its roads at an early date enabled the imported Caen stone and Kentish rag to reach the inland districts, while the Roman remains formed an easy quarry until the 14th century saw the revival of the art of brickmaking.

But even after this discovery—that the local conditions favoured the use of brick frankly expressed as such—the Essex builders seem to have striven to obtain an apparent stone face to their walls, constructing brickwork merely as the vile body to receive a coating of plaster. As a curious illustration of this desire, the porch window of Bures Church was built of stone below the transome, while above there was brickwork roughly finished and of a smaller section so as to take stucco. In this connection and with reference to Eastbury House Mr. Goodman says (page 21):—"It was thought no shame to imitate stone quoins and window dressings by plastering over the brickwork of such a complete and entirely beautiful piece of work as this." Still it cannot be denied that such an expedient, having no logical possibilities, greatly detracts from the architectural value of the structures. Even if the practice of sham plastering arose from the desire to bring additions into harmony with earlier work (as mentioned on page 20) it can only be regarded as an affected present-day makeshift. It is satisfactory to know that much of it has

crumbled off, and that in some cases the plaster never was applied at all.

Of Mr. Goodman's essays probably the most valuable is that which deals with the use of native timber—chiefly for towers and spires. These are classified in three groups: (a) where the tower is simply carried by the roof timbers; (b) where it is framed from the ground and carried through the roof; and (c) where the whole is placed outside the western wall of the nave as an independent structure. The second of these groups is especially interesting, and leads to a fine internal treatment. The author considers the Landon example the best, but from the drawings it seems as though Horndon-on-the-Hill were even better, being so much less complicated and more in keeping with the general character of the church. Landon, on the other hand, suggests a temporary scaffold breaking into the design. Of the third group, with the belfry entirely outside, numerous examples are presented. Mr. Goodman thinks that originally the posts and beams showed on the face, the spaces between being plastered. This certainly would be more impressive than the weather-boarding which as a rule encloses the towers to-day.

Turning to the actual book, while the paper, printing, and reproductions are quite delightful, the task of referring from letterpress to illustration is difficult and out of all proportion to the size of the volume. As the example is never opposite the text it might have been better if all the drawings had been arranged at the end on some system. A map of the county would also have been of service. But the work is a welcome addition to the scant information hitherto available, and it is to be hoped that Mr. Goodman may have that "sufficient support of a practical nature" in order to continue and complete the series.

J. MACLAREN ROSS.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1905-06, held Monday, 6th November 1905, at 8 p.m.—Present, Mr. John Belcher, A.R.A., *President*, in the Chair, 51 Fellows (including 13 members of the Council), 58 Associates (including 3 members of the Council), 4 Hon. Associates, and numerous visitors: the Minutes of the Meeting held 3rd July 1905 (*JOURNAL*, 22nd July, p. 584) were taken as read and signed as correct.

On the motion of the Hon. Secretary it was

Resolved, That a letter be sent on behalf of the Institute to the widow and family of the late Alfred Waterhouse, R.A., LL.D., *Past President*, *Royal Gold Medallist*, sympathising with them in their bereavement, and expressing the admiration of members for his talents and work, and appreciation of the eminent services he had rendered the Institute.

A similar letter of sympathy was ordered to be sent on behalf of the Institute to the widow and family of the late Charles Forster Hayward (F.), F.R.S., for some years Hon. Secretary of the Institute.

Sympathetic reference was also made by the Hon. Secretary to the death of Charles Lucas, Hon. *Corresponding Member*, of Paris, and it was stated that the Council had already conveyed to the family the regrets and condolences of the Institute.

The Hon. Secretary further announced the decease of the following members:—Charles Henry Howell, elected *Associate* 1848, *Fellow* 1861; Joseph Wood, elected *Fellow* 1902; Thomas Edward Knightley, elected *Associate* 1856, *Fellow* 1880; James Weir, elected *Associate* 1874, *Fellow* 1882; Henry George Luff, elected *Associate* 1864, *Fellow* 1901; Charles Grayson Maynard, elected *Associate* 1874. Also of Lord Montagu of Beaulieu, elected *Hon. Associate* 1878; and of the following *Hon. Corresponding Members*: the Conte Giuseppe Sacconi, of Rome, elected 1887, and Johan Louis Casing, of Copenhagen, elected 1897.

The following members attending for the first time since their election were formally admitted by the President and signed the respective Registers, viz. William Goacombe John, A.R.A., *Hon. Associate*; William Woodward, George Alfred Humphreys, A.R.C.A., William Bevan, and Arthur Ernest Hazell (Nottingham), *Fellows*; Ernest George William Souster and Charles Thomas Palmer, *Associates*.

The Secretary announced the results of the Statutory Examinations held by the Institute in October.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election:—As FELLOWS (16): Herbert John Charles Conleux (Cape Colony); George Arthur Hamilton Dickson (A. 1888) (Johannesburg, South Africa); Horace John Hudson (A. 1892); Alexander Robert Heasell (*Title Prize* 1894, A. 1895); John Nixon Horsfield, F.S.I.; William George Hunt; Harry C. Kent, M.A. (Sydney, New South Wales); Albert Walter Moore; George Ernest Nield (A. 1894); Joseph Owen (Mennel Bridge, North Wales); Armitage Rigby (Doughla, Isle of Man); Percy Robinson (*Qualified for Associateship* 1905) (Leeds); Fred Rowntree; Edgar Sifton Underwood; Adam Francis Watson (A. 1879) (Sheffield); Ernest Augustus Eckett Woodrow (A. 1881). As ASSOCIATES (20): * Lionel Newman Barrett (*Special Examination*); Arthur Alfred Carder (*Probationer* 1898, *Student* 1904); James Charles Cook (*Qualified Special Examination* 1904) (Bloemfontein, Orange River Colony); Otto Sigismund Doll (*Special Examination*) (Brighton); George Leonard Elkington (*Probationer* 1898, *Student* 1901); George Frederick Ely (*Probationer* 1898, *Student* 1899) (Liverpool); Charles Lionel Fleming-Williams (*Probationer* 1897, *Student* 1899); John Leighton Fouracre (*Probationer* 1898, *Student* 1902), Plymouth; Lionel Upperton Grace (*Probationer* 1897, *Student* 1898); William Courtenay Le Maître (*Probationer* 1902, *Student* 1903); John Hutton Markham (*Probationer* 1900, *Student* 1903); Leslie Thomas Moore (*Probationer* 1899, *Student* 1903) (Great Yarmouth); Val Myer (*Probationer* 1900, *Student* 1902); James John Sydney Naylor (*Probationer* 1897, *Student* 1900); Harry Prince (*Probationer* 1897, *Student* 1900); Edward Reil (*Special Examination*) (Sunderland); Sydney Searle (*Probationer* 1899, *Student* 1903); Noel Thomas (*Probationer* 1897, *Student* 1898); John Wilson Walker (*Probationer* 1897, *Student* 1902); William Ernest Walton (*Probationer* 1900, *Student* 1902).

The President having delivered the OERIXA Address of the Session, a Vote of Thanks, proposed by Sir John Thornycroft, LL.D., F.R.S., and seconded by Sir Arthur Rucker, D.Sc., F.R.S., was passed to him by acclamation, and briefly responded to.

The proceedings then closed, and the Meeting separated at 9.30 p.m.

* Except where otherwise indicated, all candidates for Associateship passed the Qualifying Examination last June.



VITRUVIUS.

ROYAL ACADEMY LECTURES, 1905.

By Professor AITCHISON, R.A.

PAST PRESIDENT R.I.B.A., ROYAL GOLD MEDALLIST.

THE Royal Academy has been generous in doing what it could for the advancement of its students. From its very foundation it supplemented the teaching in its schools by lectures on the theory of the several fine arts that are tried to be taught here. Thomas Sandby was appointed first Professor of Architecture, and he got his brother Paul, the landscape painter, to make a coloured sketch of the intercolumniations of the five sorts of temples mentioned by Vitruvius, which my father copied when he was a student; but the drawing reproduced [page 23] is by one of his pupils. My last year's lectures were on Vitruvius, who has certainly written the most valuable book on Architecture that is known. Vitruvius gives what were *then* considered the necessary qualifications for an architect, and these are so vast that most people would be deterred from attempting the art unless they felt it was their vocation. Now two years and a half in a country architect's office is thought sufficient. Vitruvius himself, seeing the large demands made, says that the students "must be initiated at an early age."

We can say that in one invention at least the ancients surpassed us—*i.e.* in the means of making the music and singing heard in their vast open-air opera houses: this was done by means of inverted bronze vases put under the seats, supported on one edge by a wooden wedge. Many of these bronze vases were found under the seats of the Opera House at Crete, and were called *ἡχεία* by the Greeks, and were described by Onorio Belli. I have seen a transcription of some of Onorio Belli's MSS. in some work of Edward Falkener's. Falkener was a great traveller and classical antiquary. Perrault shows the vases in the theatre, but whether the recesses are of the proper size and shape I cannot say. Vitruvius also gives accounts of many of the celebrated buildings of antiquity; he had not only read many of the treatises of the distinguished Greek architects, now lost, but had seen in their glory some of the temples built in the time of Alexander the Great, and has given us the only lesson that I know for getting excellence in architecture. It seems scandalous that this valuable book is so much neglected by our architects and students. So much is Vitruvius valued in Germany that a small pocket volume in its native tongue is published at a low price, of which the late Dr. J. H. Middleton gave me a copy.

The late M. Charles Lucas was also good enough to present me with a copy of the small illustrated edition of Fra Giocondo of 1513, which had been the pocket volume of the great Rondelet, who completed Soufflot's Pantheon at Paris after the partial failure of the piers supporting the dome, and who was the author of the celebrated treatise on the art of building. A copy of the edition of Perrault, 1684, was also presented to me by M. Auguste Choisy.

In my last year's course of lectures I spoke mainly about the bibliography of the editions of Vitruvius, and the books then mentioned contain a good deal of information about Roman work. Vitruvius's book has this virtue about it, that it has been the prototype of all subsequent treatises on architecture from Leon Batista Alberti's to Sir W. Chambers, the second edition of which was published in 1768. The first volume of the grand work of Viollet-Le-Duc on Gothic was published in 1854. With Vitruvius is generally bound up the two books of Sextus Julius Frontinus on "The Water Supply of the City of Rome." This was, I believe, translated by Rondelet in 1820, but it has been lately published at Boston, U.S.A., in English by Mr. Clemens Herschel, hydraulic engineer. There is no date on Mr. Herschel's book, but he writes at the end of the introduction "New York, March 1899." I mention this because engineers are practical men, and would never take the trouble to read a book, much less to translate one, if they did not gain useful information from it.

How comes it, then, that architects, knowing as they do that all the advanced architecture of the world since the time of Brunelleschi has been revived Roman, have neglected to learn what they could about it from the only Roman treatise that has come down to us? For it may be said that the first mention of revived Gothic, beyond some dabbling in it by Horace Walpole, is that of Mr. Allworthy's house, described in chapter 4 of *Tom Jones*, which was first published in 1749. "The *Gothick* Stile of building could produce nothing nobler than Mr. *Allworthy's* house. There was an Air of Graudeur in it, that struck you with Awe, and rival'd the Beauties of the best *Grecian* Architecture; and it was as commodious within, as venerable without" [*Edition of 1849*].

The different well-known treatises on Architecture that have been written since the publication of Vitruvius are:—

The great Leon Batista's book in Latin "on Building," published in 1485, translated into Italian by Cosimo Bartoli, and published in 1565 at Monte Regale.

Sebastiano Serlio, 1544 to 1551. Venice.

Vincenzo Scamozzi, born 1552, died 1616; his books were published in 1582-1605.

Jacopo Barozzi da Vignola, 1563; Book of the Orders 1619.

Phillibert de l'Orme, 1568-1576. Paris.

Andrea Palladio, 1570. Venice.

Antonio Labacco, 1570. Rome.

Giovanni Antonio Rusconi, 1590 and 1660. Venice. The ten books of architecture according to the precepts of Vitruvius.

The principal claims Vitruvius has to our study are that he was evidently well acquainted with some of the Greek temples when the ancient rites were in vigour, and that he had read many of the treatises of the best Greek architects that are now lost, and has given us the names of architects and buildings that might otherwise be unknown. I may mention the architects Batrachus and Sauros—said, however, to be fabulous—and his description of the Mausoleum.*

It would be profoundly interesting if we could meet with the text-books of the architects of the Dark and Middle Ages, and especially those that treated of Romanesque and Gothic. If we could get the Gothic formulæ we should know the means used for getting the general

* Cavaliere Boni conjectures that the columns of the nave of St. Mark's, Venice, came from the Palace of Mausolus.

proportion of buildings touched on by Professor Cockerell in his pamphlet on William of Wykeham, and also by Cesare Cesariano. We should probably hear something about the difficulties of vaulting the naves of large churches and cathedrals, and the gradual perfecting of Gothic building after the invention of the flying-buttress.

The inclination of all trades is not to divulge trade secrets; even now in the records of the different City companies the trade itself is always called "the art and mystery." All the archives of the guilds of mediæval architects and of the guilds of masons, carpenters, and other trades, probably perished in the sack and pillaging of towns in the various wars and



INTERCOLUMNS OF TEMPLES REFERRED TO BY VITRUVIUS.
From a copy of a Water-colour Drawing by Paul Sandby.

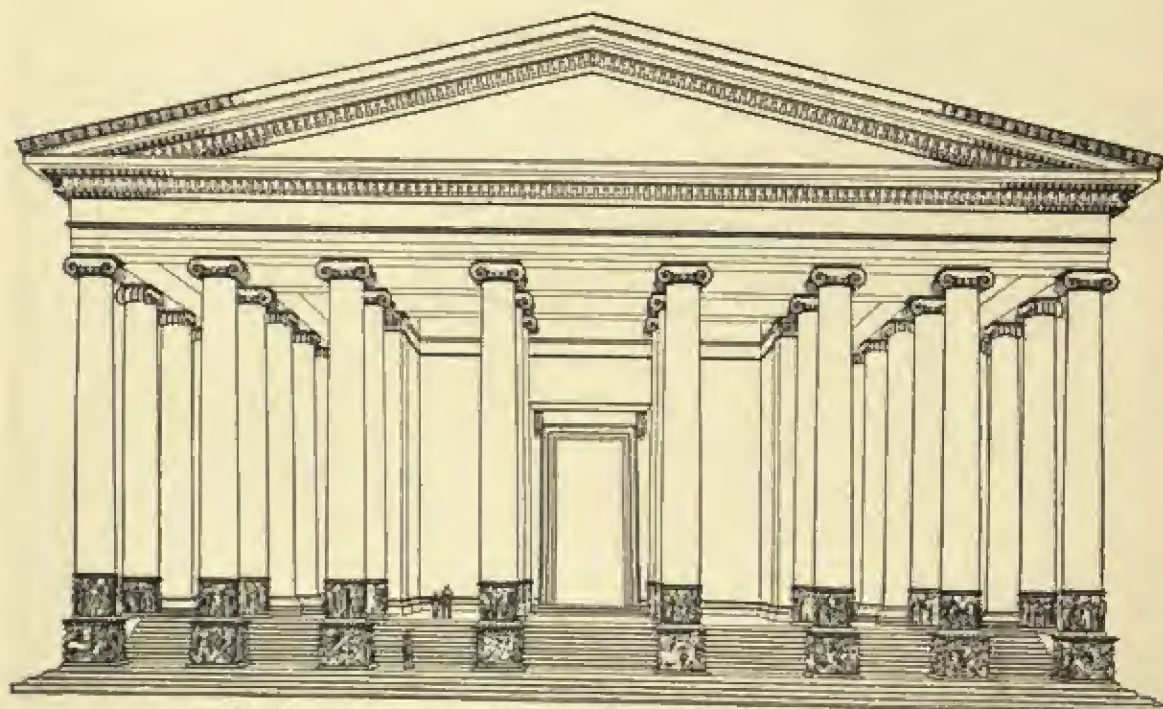
disturbances that took place; and when the Renaissance emerged all Gothic was held in contempt, as may be read in Vasari's *Lives*, not to speak of the destruction at the time of the French Revolution of everything connected with the clergy, for the clergy were then looked on with hatred and contempt.

Hope tells us that he had seen drawings in some of the muniment rooms of German churches, which showed that some graphic process for getting the thrust of vaults was then used.

In early mediæval times architecture was one of the subjects that the priests who took the full programme of instruction included in their curriculum. Lanfranc, William the Conqueror's Archbishop of Canterbury, is said to have studied architecture, and is credited by some with designing the abbey at Caen, of which he was abbot. Doubtless various

traditions of proportion were handed down from the different building nations of remote antiquity—from Persia, from Assyria, and from Egypt—that would be interesting and might be useful to us now; for though we see the diagrams in Cesare Cesariano on the Cathedral of Milan, they do not teach us much.

I think the proportions given to the Orders in Greece must have been mainly founded on their architects' experience that these proportions were suited to the weights they had to carry. I say "mainly" because their architects were artists, and had to make their buildings look sublime as well as to carry weight. It is curious that Gothic, which showed so much skill in construction and originality in design, should have been killed almost at once by the study of the Greek authors in Italy and by the introduction of classic grace into architecture.



THE LATE DR. A. R. MURRAY'S CONJECTURAL RESTORATION OF THE TEMPLE OF DIANA AT EPHESUS.
From a drawing by Mr. GEORGE WALL.

The last bit of real Gothic that I know in England is the staircase to the hall at Christ Church College, Oxford, built in the time of Charles I., but Gothic had to give way to the revived Roman of Inigo Jones. But no Gothic that I have ever seen approaches the grandeur of the classic portico of St. Paul's, Covent Garden. The means of getting proportion in plans and the height of naves is given in the late Professor Cockerell's pamphlet on the architectural works of William of Wykeham, published in 1846, which also gives the Professor's remarks on some of the early illustrated editions of Vitruvius.

To come back to classic architecture. As soon as the Greeks gave up the use of wood, and replaced it with marble, the size of architraves was soon settled. In the days when oak was used for this purpose, if the architraves were slightly overlaid they merely sagged; but as soon as they were replaced with marble they cracked or broke. Hence the names of the styles: Pycnostyle, $1\frac{1}{2}$ diameters apart; Systyle, 2 diameters apart; Eustyle, $2\frac{1}{4}$ diameters apart; Diastyle, 3 diameters apart; and Araostyle, with wooden architraves,

though the name of Eustyle had also something to do with the convenience of the ladies going through the intercolumniations arm in arm.

At the Propylæa at Athens the central intercolumniation was 12 feet $3\frac{1}{2}$ inches—about double the size of the others—to admit processions and the droves of cattle passing through



From an illustration (pl. I.) in Polemon and Straticus's Latin edition of Vitruvius (Udine 1623), Vol. I.

it that were going to be sacrificed : and the central openings of temple porticoes were eventually made wider than the others—I suppose for something connected with the ritual, and to allow the statue of the deity to be better lit and better seen.

At the Temple of Diana at Ephesus the central intercolumniation is wide—about 23 feet, or about 29 feet from centre to centre of the columns ; the piece of architrave to fill it

in was got up an inclined plane of sand-bags, and when it was lowered into the space left for it, it would not go into its place, but stuck. This story that Pliny tells is not of Alexander the Great's architect with the many aliases, commonly called Dinocrates, but of Chersiphron, or Ctesiphon, a former architect; for this temple was, I think, rebuilt eleven times, the last time at the expense of Alexander the Great by his architect Dinocrates. However, for this story the date does not matter. Ctesiphon was so distressed at this mishap that he was said to have contemplated suicide; but he fell asleep and was visited by the goddess, who told him that she had put the architrave in its proper place, and in the morning he found it to be so. This is the story told by Pliny the elder. Viollet-Le-Duc says that this sort of miracle was common amongst the Gothic architects before they had properly learnt their business.

The late lamented Dr. A. S. Murray, Keeper of the Classical Antiquities at the British Museum, gave a lecture at the Royal Academy and also read a paper at the Institute on this temple as built by Dinocrates, the illustrations of which are exhibited in the British Museum, with the ruins of the bases, square pedestals, and carved drums, and were published in the JOURNAL R.I.B.A. 21st November 1895. Students probably know the carved drums and the old base with the name of Croesus roughly carved on it.

The discovery of the manuscript of Vitruvius by Poggio in 1414 was followed by its being printed, supposed to be in the year 1486, and it is believed to have been printed by George Herolt at Rome; but the book is without date, place of publication, pagination, or name of publisher. I think on mature reflection that the original editor, Sulpitius, who heads the first book of Lucius Vitruvius Pollio to Cæsar Augustus, is probably right; for the whole of Vitruvius shows that his work must have been written just as Augustus was settled in the Empire; for there is not in the whole of Vitruvius a single building mentioned that existed after the early part of the reign of Augustus, and the idea, that I at first favoured, that it was written in the time of Titus could hardly have been the case, for the eruption of Mount Vesuvius could scarcely have been passed over by Vitruvius without notice.

As far as we know there were only three editions of Vitruvius published in the fifteenth century, and it was not until the beginning of the sixteenth century—viz. in 1511—that Fra Giocondo published his illustrated edition. Rome, the towns of Italy, and elsewhere were searched for examples that would illustrate the words of Vitruvius, and some of the early editions show curious examples illustrating Vitruvius's words. According to the Codex, Vitruvius's original book was illustrated; but that has disappeared without leaving any trace, and we can hardly hope to find his illustrated book now, even in Herculaneum. All the civilised nations of Europe began in the sixteenth century to issue illustrated editions of Vitruvius. The first French edition by Jan Martin was published in 1547, the second in 1572; the great Italian one of O. Cesariano in 1521; the great German one of Nuremberg in 1548; another Italian one in 1584, then one in 1585, 1596, 1556, 1567, 1584. There was a Spanish version in 1582. No English translation from the Latin was published till that by Newton in 1771, but there was a translation from Perrault published in 1692, and the last English one by Joseph Gwilt in 1826. Wilkins published a translation of the domestic part of Vitruvius in two volumes in 1812, and I may here say of Wilkins that he was the first person who discovered what was the meaning of the correction of the optical illusions and use of the Scamilli Impares the existence of which was verified by the late Mr. Penrose. Since the rediscovery of the manuscript, Vitruvius has been almost identified with architecture, as the Renaissance was a revival of Roman architectural art.

It is absolutely necessary, if you want to know the names used for the various parts and the descriptions of classic buildings, to read Vitruvius. He gives, besides, a vast amount



THE PARTHERON, AS RESTORED BY THE LATE EDWARD FALKNER.
FROM A WATER-COLOUR DRAWING BY THE RESTORER.

of information that architects should possess, and which such men as Cockerell, Donaldson, and Gwilt tried to acquire and teach, and which affected all the promising young architects of the early part of the nineteenth century. Vitruvius has, too, told us of the methods the Romans used to get beauty (probably taken from the Greek), *i.e.* to make every part in proportion and symmetry both with the feature itself and with the whole building; he has preserved the names of many buildings now destroyed, and the names of some of the celebrated architects of antiquity. The Romans were a very brutal people, who only admired ferocity, perseverance, and cunning, as the following remarks of Plutarch, probably got from Trajan, show:—

“If a man applies himself to servile or mechanic employments, his industry in these things is the proof of his inattention to nobler studies. No young man of noble birth or liberal sentiments, from seeing the Jupiter at Pisa, would desire to be Phidias, or, from the sight of the Juno at Argos, to be Polyclethus; or Anacreon, or Philemon, or Archilochus, though delighted with their poems. For though a work may be agreeable, yet esteem of the Author is not the necessary consequence. We may therefore conclude, that things of this kind which excite not the spirit of emulation, nor produce any strong impulse or desire to imitate them, are of little use to the beholders. But Virtue has this peculiar property, that at the same time that we admire her conduct, we long to copy the example. The goods of fortune we wish to enjoy, virtue we desire to practise; the former we are glad to receive from others, the latter we are ambitious that others should receive from us. The beauty of goodness has an attractive power: it kindles in us at once an active principle; it forms our manners and influences our desires, not only when represented in a living example, but even in an historical description.

“For this reason we chose to proceed in writing the lives of great men, and have composed this tenth book, which contains the life of Pericles, and that of Fabius Maximus, who carried on the war against Hannibal; men who resembled each other in many virtues, particularly in justice and moderation, and who effectually served their respective commonwealths by patiently enduring the injurious and capricious treatment they received from their colleagues and their countrymen. Whether we are right in our judgment or not, will be easy to see in the work itself.” (From “Pericles” in Plutarch’s *Lives*, vol. ii. pp. 2, 3, in the Langhorne’s translation of 1801.)



The Propylaea.



Terra-cotta building, New York [McKim, Meade & White, architects].

AMERICAN METHODS OF ERECTING BUILDINGS.

By R. A. DEXELL,

MANAGING DIRECTOR OF THE WABING WHITE BUILDING COMPANY, LTD.

Read before the Royal Institute of British Architects, Monday, 20th November 1905.

THE receipt of a letter from your Secretary asking me to read a paper on "American Methods of Erecting Buildings" before the Institute gave me extreme pleasure, and yet, at the same time, anxiety—pleasure because I certainly deemed it a great honour, and anxiety as to whether I should be able to write a paper which would be interesting enough to take up the valuable time of the members of this world-renowned body.

I presume that by "American methods" is meant the methods of the United States, or, as Sir Edward Clarke, K.C., has so aptly put it, U.S.O.N.A.; for, although Canadian are practically the same as American methods, this cannot be said for Mexico or the different States in Central and South America.

I must say I often get tired of hearing of American methods, and especially to be expected to sustain their reputation for strenuousness; for wherein can they be said to be different from English methods if we omit the so-called sky-scraper, a building which is practically the result of the evolution of modern business? Hotels, stores, &c., can be, and are, analogous to office buildings in construction; but as regards domestic, public, church, and factory work &c., there is really no great difference except that of detail—a difference which applies equally to all countries, and less so between England and America than others.

The principles of architecture and the materials of construction are much the same to-day as they were in the past, and we can therefore hardly expect startling changes. Whatever differences there are, result from the evolutionary change of living, which the modern architect and builder alike have to meet, just as formerly. In olden times the architect was artist, engineer, and craftsman, in fact everything except the client, who was generally the Church or the Government; and in those days thirty years in which to

complete a work was considered quite fast enough. Nowadays the client in most cases desires to give the commission to the architect to-day and to have the work completed next week, so that he may enjoy the revenue during his own lifetime rather than leave the enjoyment of it to posterity.

Increase of rapidity of construction and economy are the dominant factors in the consideration of the present subject.

The title of this paper may be considered to apply broadly to constructive methods, or more narrowly to the management of a contractor's business. If I took the latter view I should have practically nothing to say. American contractors are generally good business men, and apply business principles to their affairs. They try to make every man in their employ responsible in his own position or sphere, advancing him when he shows capabilities to trust his own judgment and to go ahead alone successfully. In this they are no different, of course, from large contractors the world over. The best builders in America, as a general rule, have served a large portion of their apprenticeship in architects' offices, and this has resulted in a better understanding of the architects' ideals and demands, thus enabling them to assist rather than hamper.

Labour to the contractor is of primary importance. Much has been written about the British working man, but I must say that I do not agree with the writers of the articles I have read. They all attack the bricklayer. Now, gentlemen, I think the English bricklayer does better work than his fellow in any other country. As regards the amount of work done, I have had men in this country who laid an equal and in many cases a larger number of bricks per day, under similar conditions, than I have had in America. Continental brickwork does not compare with work here. I consider, too, both the English stonemason and the navy splendid workmen.

When it is remembered that the wages of building mechanics in America range from 1s. 10½d. to 2s. 11d. per hour for an eight hour day, while the labourer gets from 1s. to 1s. 6d. per hour, you feel that one ought always to get good men; but unfortunately you do not. The main difference, then, I consider is that here we get careless of our labour by reason of its cheapness. If it were more expensive we should watch over it more and give it better supervision. I believe it is a rule among the best American contractors never to allow more than twenty-five men to work without a foreman, the result being that he sees that they work, and, what is more important, that the work is planned out for them in advance, and that their materials will be ready as wanted. I mention this last particularly because I have noticed so often that a man will waste hours waiting for materials, and also is disposed to put his hands in his pockets and contemplate what there is to do next, and how he shall do it, when, in my opinion, this ought not to be his to do, but he should simply be required to do his work as instructed quickly and well.

One of the chief reasons for the rapidity of construction in large buildings in America is, I believe, the way with which materials are dealt. Contractors in America do not have their own shops. Yards for the storage of plant &c. of course they must have. Time being an essential factor, it would be impossible for a contractor there to execute joinery, stonework, marble-work, and ornamental plastering so efficiently or so well with his own plant and in his own shops as each man in his own particular trade who has made it a speciality and has had life-long experience in it. Steel, terra-cotta, partitions, and mechanical plant are manufactured by much larger firms than here, and can therefore be supplied much more quickly. The builder stands, however, between the architect and the specialists, seeing that the material is correct in quality and workmanship, and that it is being worked carefully to details, and also that it is being advanced so as to be ready at the proper time to fit in with the other work.

There are certain slight differences as regards plant—cranes, scaffolding, and hoists—of which I show examples [figs. 1 and 2]. With the exception of those used in "sky-scraper" construction, the cranes in this country are as practical as those used in America; while as to hoists, when cranes are used there should be very little difference as regards efficiency between them and hoists. When, however, the handling of materials is performed by means of baskets, hods, &c., I consider it childish (except of course under special conditions).



FIG. 1.—AMERICAN CRANE.

But coming to the larger aspect of the subject, the difference in the methods of construction in American practice is the result of evolution in response to certain conditions, climatic and economic, and also in response to public demand.

I do not propose to deal with the erection of domestic buildings and other small work in provincial towns and villages, because the construction and method of erection are virtually the same as in this country, the contractors being small men, or separate tradesmen being employed.

Disregarding public work, which is somewhat an exception, and dealt with in much the same way as here, the client of the American architect may be stated to be either a successful practical man who has arrived at his position by his own efforts, or, as is very seldom the case (especially outside the Eastern cities), a man of inherited wealth. Therefore, as the

predominating client is practical and commercial, his demands are those that result in the greatest financial benefit to himself, such as speed, economy in construction, greatest available space to let, &c.

The remuneration of American architects is the same as here; but for this much more work is required, more detail drawings having to be furnished, and no assistance being afforded from clerks of works or quantity surveyors; while the foremost architects, in order to succeed, have to keep a large and competent staff of engineers. The result of this is that the successful architect's time is taken up in business matters and in criticising the work of his designing staff, leaving him no time to use the pencil himself, the only exception to this being in the case of a partnership where the work is allocated to the various members of the firm.

It may be mentioned that in America the quantity surveyor is unknown. The time given builders in which to estimate is rarely more than a fortnight from the time the plans and specifications are furnished to them, and each builder keeps his own staff of estimators, as they are called, who take off the quantities from the architect's plans and specifications. This results in a saving of time.

As regards the clerk of works, American practice is essentially the same as English, only the architect's representative is called "superintendent." He is paid by the architect and works under his instructions.

If consulting mechanical, sanitary, and structural steel engineers are required, they are generally employed by the architect; and to avoid the expense of this is the main reason why so many architects have these engineers on their office staff. I might point out that this would only be remunerative when a large amount of work was done annually. This in the cases of men who deal with the largest work amounts to from one to four millions sterling per annum, and in the latter cases an architect's establishment costs would be about £50,000 a year. With this

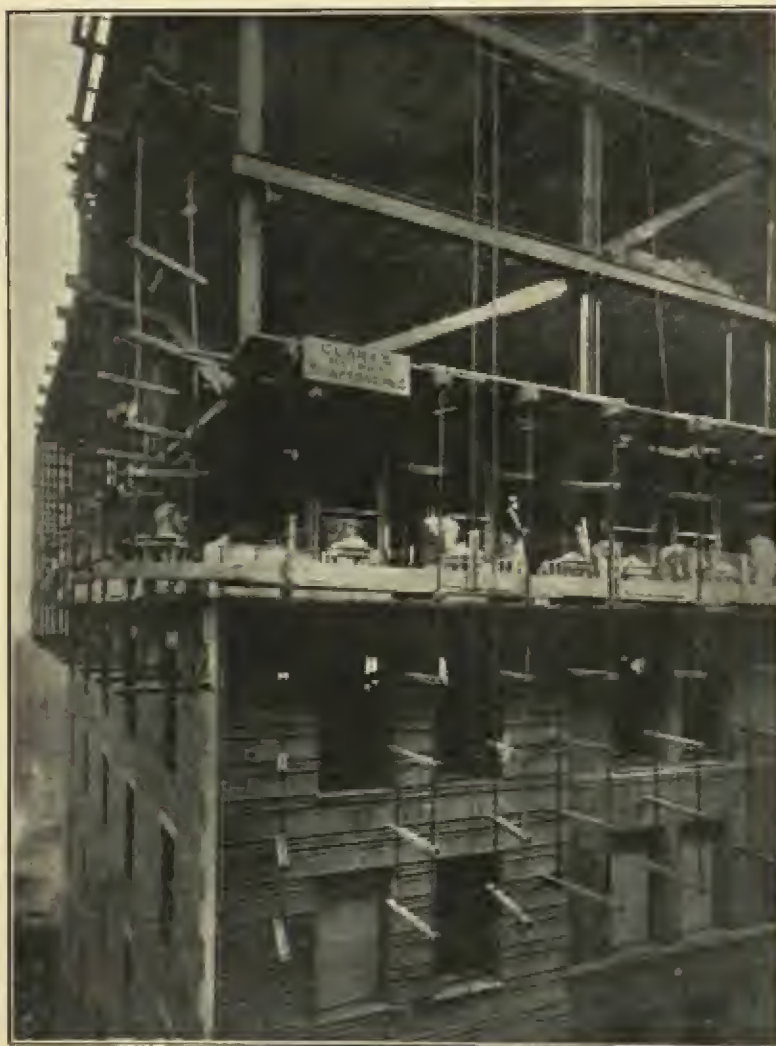


FIG. 2.—SCAFFOLDING.

staff an architect can from the beginning furnish a contractor with full information, both scale and detail drawings; and I must say that this is one of the most necessary things for a builder or an architect who desires speed in construction. This, I am sure, is a primary essential to speed, allowing the builder immediately on signing the conditions of contract to arrange for his steel and other materials to be manufactured in advance, and assembled elsewhere than on the site.

The largest builders have a competent staff of mechanical, sanitary, and structural steel engineers who draw up their own plans and specifications, of course working in harmony with the architect, and submit their tenders for these branches of work from their own plans, thus saving the architect from all this increased establishment expenditure and attendant worries. In such cases the contractor guarantees the work as to quality and efficiency. With the engineering staff in his own employ, a builder can subdivide the engineering work, so that he can buy the parts from the best makers and then assemble them—which works out cheaper as it saves the intermediate profits.

As nearly all the largest buildings have their own mechanical plant which heats, lights, furnishes power for lifts, pumping water, &c., it can readily be seen that if the architect does it all efficiently he must neglect the plan and designing of the building, unless, as before mentioned, he has a special trained staff of engineers to do this work for him, which is only done in a few of the largest architects' offices.

The Building Laws here undoubtedly restrain the contractor and architect as to speed. Different surveyors have also to be dealt with, whereas in America each city has its own building department, which is the only authority to be consulted. This means that before starting work plans must be filed and approved, after which, except for variations &c., one can proceed without further interference when following plans which have been filed. The larger cities now have a competent staff to deal with building works; and an engineering staff to calculate the strength of the various parts from the drawings, so as to see that they conform to the By-laws, and are structurally safe, thus preventing "jerry"-building &c.

Again, each city has its land surveyors, who at once, upon notification, fix according to law, and to deed and title, the exact boundaries of your client's property. Thus, the architect, immediately upon starting his work, obtains exact dimensions for his plans, so that the builder has these fixed dimensions to work to, and from which to order materials in advance. It will be appreciated what a great advantage this is to the builder, as he then has no hesitation in ordering his materials ahead, so that he may have them ready when needed. You will notice how all American working drawings have figured dimensions, these not being left to be scaled, as is generally the case in this country. I might say here that one of the best builders in America once told me that erecting a building was nothing but putting an experienced and energetic man in charge and seeing that he was furnished with materials to work with, without any worry or trouble upon his part. I would also point out that with the small cubical contents of buildings allowed by the Acts, it is impossible to store or stack materials on the work as in America; and this compels English builders to live more or less from hand to mouth, relying on their carters or their own teams for supplies. I have found this to be the cause of very frequent stoppages and delays.

As to American materials allow me to give you a hasty comparison, explaining wherein they are different from those used here.

A small brick is used, measuring on the average about $8\frac{1}{4}$ inches by $4\frac{1}{2}$ inches by $2\frac{3}{4}$ inches, except glazed bricks, for which the English size is generally used. There are no other essential differences in bricks except the natural ones in clays, due to the different localities, a greater range of colour and texture being found in facing bricks, which gives architects much

greater scope for colour schemes. Facing bricks of a great many special sizes are also used, such as the "Norman," which is a brick measuring 12 inches by $4\frac{1}{4}$ inches by 3 inches, or the "Roman," which measures 12 inches by $4\frac{1}{4}$ inches by $1\frac{1}{2}$ inch. In America the bricks are laid in all manner of bonds, such as English, Flemish, no-bond, &c. For this last reason

English brickwork is superior structurally to American.

The United States at the present time manufactures practically all its own cement, and it is very good, though not, as a whole, equal to English Portland.

Lime is very much the same, except that on the average it is whiter in the United States than here.

Timber, of course, is much more extensively used. It is sold by board measure, namely, so much per thousand feet of 1 inch by 12 inches by 12 inches. It is much cheaper, and this is the reason so many wooden houses are erected, and why so much "mill construction," or what is called slow burning construction, is adopted. The principle of this latter is to use large timbers throughout, *i.e.* heavy joists measuring at least 3 inches by 12 inches, and stanchions or pillars at least 12 inches by 12 inches; while all



FIG. 3.—STEEL-FRAME BUILDING, WITH TERRACOTTA COVERING.

flooring is 3 inches thick or more, so that in case of fire the timbers will char for a long time before breaking. This system of construction is recognised by insurance companies as second only to the fire-resisting construction, and when a sprinkler system is installed is considered, in the majority of cases, equally as good.

In stones there is a greater variety, both in quality and colour. The favourite, as here, is a white limestone, which comes from the State of Indiana, and is almost identical with Portland, except that it has no shells in its structure. The American dark granites—blue, black, and red—are not as fine as Scottish granites, but in white and grey granites there is a much greater variety. Local marbles have a greater range than English and Irish, and are superior to many Belgian and French marbles, though not so beautiful as the Grecian. All the finest Government work is in granite or marble. The cost of stonework in the States averages

about the same as here, and granite is a little cheaper. The stone there is finely worked, and the surface is generally tooled. This is called *drove work*, and is done by machinery: it consists of about eight cuts, *i.e.* fine channels, to the inch, and has the effect of making the work look very true and straight, as the surface does not reflect light in the way that a smooth or polished surface does, such as, for example, a sheet of window glass.

Terra-cotta in my opinion has reached a higher usefulness in America than here, the reasons for this being, first, the greater variety of clays, which gives the opportunity of furnish-



FIG. 3.—IRON STAIRCASE, UNION PASSENGER STATION, OMAHA, IOWA. (WALKER & KIMBALL, ARCHITECTS.)

ing almost any colour or shade an architect may desire for polychromatic effect; and secondly, that terra-cotta is particularly suited for an external covering to a steel skeleton frame [fig. 3]. I believe America is also in advance in its manufacture, as the terra-cotta is straighter, truer, and, what is of still greater importance to the architect, produced in much larger blocks than here, thus more nearly approaching stone in effect. A great deal of glazed terra-cotta or faience, or what is called in England "*Carrara-ware*," is used in America, as clients call commercially for buildings easily kept clean and bright in smoky and dirty cities—and practically all the larger cities in the Middle West come within this category.

Metals are practically the same as in this country. I will deal with steel construction later. I would, however, call attention to their so-called ornamental iron and bronze work [fig. 4]. This is very extensively used, principally resulting from its demand in fire-resisting buildings, and includes a much greater variety of cast work than here, all staircases &c. being built of ornamented cast iron.

There is very little concrete stair work in the States, cast iron being used in fire-resisting buildings on account of the lightness of construction. The cast-iron staircases have iron stringers and risers, with marble treads. In buildings where several stories are exactly alike one pattern only is needed, and the cast-iron stringers can be attached directly to the steel frame of the building. In buildings not fire-resisting cast-iron stair work is replaced by wood. It would, in my opinion, be better in American practice, especially as regards fire-resistance, to follow English practice by using concrete staircases in all non-fire-resisting buildings, and also as regards the system of concrete lintels in use here, but not there.

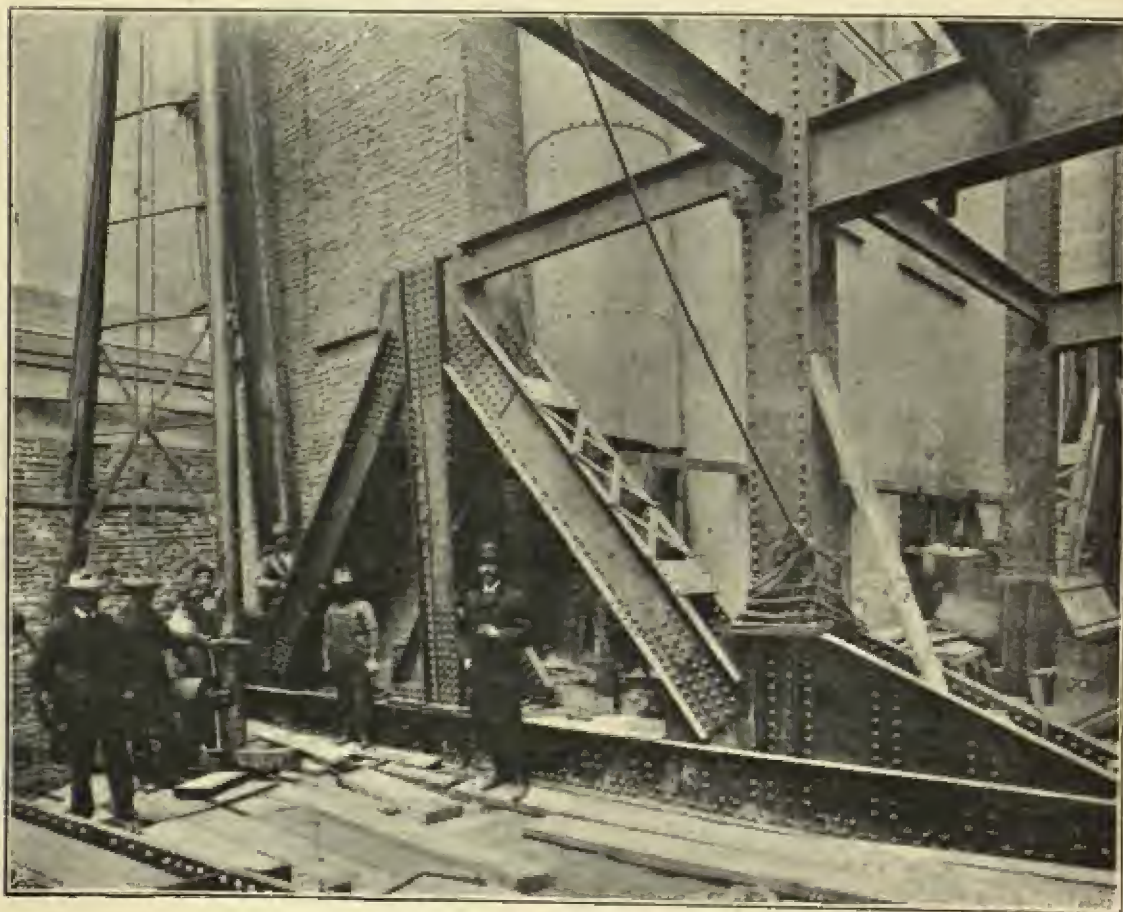


FIG. 3.—CAST-IRON FOUNDATIONS.

As regards floor construction and partitions, nearly all buildings not exceeding eight stories in height are not fire-resisting, which I am glad to see is not the case here. In such buildings the floors and partitions are nearly all of timber construction. For buildings over eight stories in height the prevailing system of floor construction is either hollow terra-cotta blocks built in arch form, with either flat or segmental soffits as an architect may desire, or some form of reinforced concrete. A hollow-floor construction is a great advantage, as it is lighter, thus materially saving in the amount of steel required in a building. I would here remark that if architects would allow greater depth for floors considerable saving in weight of steel could be effected. A hollow floor can be designed with a total weight of all steel in it of 5 lb. per square foot, whereas the solid construction requires on an average about 15 lb.

per square foot. The double floor has also other advantages, such as soundproofness and increased rigidity, thus militating against vibration and deflection. The solid concrete floor with light joists placed closely together is never used in America. Partitions in these buildings are of hollow terra-cotta blocks, expanded metal, or "Mack." Breeze building blocks are not yet used. In New York all buildings over twelve stories in height must not only have all floors and partitions of fire-resisting material, but if woodwork is used it must be treated, whatever its kind, by a fire-resisting process. All exterior window frames and sashes must be of metal with fire-resisting glazing.

As for foundations—their design, of course, depends upon the locality, *i.e.* the soil. Where the soil is of a ballast nature the foundations are generally of the grillage type—steel joists and concrete. In New York, which practically stands on rock, although in some cases at a considerable depth, concrete piers are used, these in the deepest cases being sunk by means of pneumatic caissons. In Chicago, where the problem has been most difficult, the methods of constructing foundations have developed along with the progress in steel-frame construction; that is to say, piers of granite, stone, or brick, gradually spreading until of the necessary area, were first adopted. Then the floating foundation was tried: this is simply steel grillage and concrete, each pier being entirely separate and calculated to sustain a maximum load of 3,750 lb. per square foot. This did not prove perfectly satisfactory, as, owing to the



FIG. 2.—GILLENDEER BUILDING, NEW YORK.

compression of the soft clay, considerable settlement took place. Then wooden piles were tried; but it is thought a stable foundation for a high building has been found at last for this soil. It was discovered by boring for wells that there was rock about 100 feet down. What are virtually concrete piers 100 feet deep, and from 5 feet to 7 feet 6 inches in diameter, are



FIG. 7.—AN EARLY CHICAGO SKY-SCRAPER: BRICK CONSTRUCTION.

therefore being constructed, and the bases of the steel stanchions put on these piers, the weight thus practically being sustained by the rock. The method of constructing these has been so improved that they work out at an average cost of about £200 each. One interesting development in regard to foundations in America, and one of the novelties that have there arisen, is the cantilever foundation [fig. 5]. Party-walls are not customary in the larger buildings, and the cantilever foundation has been devised to meet the need of supporting adjoining walls on their respective curtilages, without the expense of underpinning and guarding against disturbance that arises when spreading foundations which enter upon neighbouring land are used. Cantilever foundations are mostly found in the skyscrapers of New York.

Plumbing and drainage in the United States are essentially different from here, as the by-laws do not require all soil pipes &c. to be carried down ex-

ternally. As a matter of fact this is the exception. Rain-water pipes are occasionally carried down outside. But most of these are taken down inside. The rising mains, soil pipes, &c., are nearly all carried down next to the stanchions, and are so arranged with traps and plugs that they can be readily got at on the different floor levels. Most of the drains, as well as the soil pipes, are of cast iron, water pipes occasionally being of lead, though in most cases they are galvanised iron. The explanation of this sanitary practice is that the

climate does not allow plumbing to be carried down outside on account of frost: even in outside walls it is dangerous in this respect.

I would like to call your particular attention to the large amount of cast-iron work used in the States in the framework of buildings up to twelve stories in height. Cast iron, I believe, could be used to great advantage here for stanchions, as it is a material immediately available, cheap, and always able to be manufactured close to where the work is being done. It is also a material that can be delivered and erected quickly.

You might like to hear a comparison of cost between buildings in this country and in America. I have made quite a number of comparisons, and can quite safely say that, taking a building as a whole, the cost here would be about the same as in Chicago or any of the Middle or Western cities, which would average about 10 per cent. cheaper than New York City. The explanation is that the difference in the cost of labour is counterbalanced by cheapness of materials.

Now let us consider the so-called "sky-scraper" [fig. 6]. This type of building has more or less revolutionised building practice. It is simply a commercial evolution of a building. Site values had reached such a height that owners began to raise their building heavenward. The heavy rates of all large

cities also demanded this. The result was that in a short time property owners were faced with the position that their old buildings, or even new buildings of the old type, would not pay an adequate return on money invested; and, moreover, that the newer buildings with their modern conveniences, such as lifts, telephones, telegraph, heat, electric light, plenty of light and air, &c., and much finer interior fitment, drew away tenants even at increased rentals. The basement and ground floors of this class of building bring in sufficient rental to pay all interest on the freehold or ground lease: the first floor covers all rates and depreciation; the next few stories—their number, of course, depending upon the cost of the building—bring in the interest on money invested to build and all



FIG. 6.—EXTENSION OF THE BULFINCH BLDG. 7; STEEL FRAME CONSTRUCTION.

maintenance expenses; the balance is profit; and all offices being occupied, this generally gives good returns.

In America nearly all property is freehold, except in the central or business districts of the larger cities, where there is a great deal of leasehold property. In connection with this I would point out a principle which I believe, apart from the loss of interest on money invested, has more than anything else caused the American builder to obtain such speed in the erection of this class of structure; that is, that nearly all leases of property (not ground



FIG. 9.—STEEL-FRAME CONSTRUCTION, SHOWING STANCHIONS JOINTED ON EVERY FLOOR.

leases) expire on the first day of May each year, leases running from year to year. The result is that if a building be not ready for tenancy then—it will have to stand practically empty until the following year. This also demands that tenants shall look for new quarters well in advance of 1st May, and the result in many cases is that before a building is a few stories high it is rented for occupancy the following May. Its completion then becomes a necessity, no matter what the cost, otherwise there would be heavy damages for breach of agreement and also loss of rentals.

Property in New York and Chicago in the choicest locations realises as much as £25 to £35 per square foot, and office rentals range from 5s. to 17s. per square foot, which includes all rates, heating &c. As a rule above the first floor rents increase as one goes up, the top

being the best, as it is quiet and has plenty of light and air. By means of perfect systems of lifts, running express service, no time is wasted in reaching the top floors.

Now and again tales are heard of forty-story buildings. I believe while these could be structurally and safely built, especially if the base were large enough, that the practical commercial building will not be higher than twenty stories, and that will soon be the limit.



FIG. 10.—STEEL-FRAME BUILDING IN COURSE OF ERECTION.

The cost of maintenance above twenty stories and the great loss of space on the first twenty stories occupied by lifts &c. to reach the upper stories, as well as the increased cost of construction, will not be counterbalanced by the amount of rentable space gained.

I would call your attention to one of the early buildings in Chicago [fig. 7]. This building was erected for some capitalists in Boston (conservative Boston) who, while having faith in the future of Chicago and their capability of letting a sixteen-story building and making it pay a return on the investment, did not deem it wise to build with a steel frame, rather desiring to allow others to experiment first. (What progress would the world make if

this principle were followed by all of us?) This building has all its external walls and piers of brick, no steel being employed, each pier being most carefully calculated for its minimum size, using the very best materials known for bearing great weight. You will see by the photograph that they even went so far as to omit all architectural detail, such as the addition of string-courses &c., which would tend to weaken the piers and make them of greater area. I believe these investors wish to-day they had not been so conservative. While their building has been a success, another photograph [fig. 8] shows how they have extended it one-and-a-half times again in steel-frame construction, thus gaining rentable area lost in their earlier effort.

As regards the life of these steel-frame buildings, when built on proper and now well-known lines their life is as long as that of other buildings. In fact I believe that modern conditions of life are changing faster than buildings depreciate, thus necessitating rebuilding before their life is run. The steel is all buried in concrete, all exterior stanchions being inclosed in brickwork, and the interstices grouted full of cement mortar. The interior stanchions are treated in the same way, bricks or fireclay being used for covering. In addition the stanchions themselves are now being filled internally, while being erected, with concrete, and it is a well-known fact that the inclosing of steel in cement concrete, thus excluding the air, prevents all corrosion.

As to a comparison in cost between buildings supported on steel stanchions and by ordinary brick walls or piers, the cost of carrying a load on a steel stanchion is about one third that of carrying the same load on a brick pier, providing the load is over sixty tons. This can be arrived at by finding the cost of carrying one ton one foot high by the two methods. For the basis of calculation we will assume that the cost of one cubic foot of brickwork is 1s., and that the carrying capacity is six tons per square foot; the cost for carrying one ton one foot high is therefore $\frac{1}{6}d. = 2d.$ If the cost of a steel stanchion framed complete is £10 per ton, the cost of 1 lb. of metal is $\frac{34}{100}d.$, or about 1d. The cost of one cubic inch of metal is therefore about one third of a penny. Assuming that the carrying capacity of an economical section of a steel stanchion is $5\frac{1}{2}$ tons per square inch, the cost of carrying one ton one foot high is about two thirds of a penny. As before stated, the cost of carrying one ton one foot high on brickwork is 2d. Therefore by using steel stanchions the cost is reduced to one third of that amount. The above calculations are made without taking into consideration the brickwork wasted in walls which are not loaded to their full capacity, whereas steel can easily be designed to the required section. On the other hand, nothing is allowed for the brick walls which would be necessary according to the building by-laws, the case we have been considering being one where such walls would not be required by the by-laws.

There is also a saving of floor space with steel construction. From the foregoing calculation it becomes apparent that the area of a steel stanchion to carry 60 tons can easily be made 1.46 square foot finished and inclosed, as the sectional area of a brick pier to carry the same load would be 10 square feet. The economised space per foot worked out for all floors at its proper rental value would soon mean a substantial sum which would be well worth considering from the investor's point of view.

Another advantage in favour of the steel frame might be mentioned, namely, its adaptability to the construction of architectural features, as projections outside the main building lines can easily be carried on brackets or cantilevers with little cost and without interfering with the main steel frame. The advantages, too, in the way of planning are great, for walls can be taken out and large areas gained wherever desired.

In regard to the steel frame or the so-called skeleton itself, I will not enter into an exhaustive description. In itself it would make an interesting evening. I wish, however,

to call your attention to a few points. The stanchions of these buildings generally break joint; that is, they are jointed on every other floor, so as to give a stiff frame [fig. 9]. It is also good practice to build the outside girders carrying the walls of plates and angles, making them 2 feet or more in depth, this method generally requiring no greater weight of steel than the usual channels and joists, while certainly adding greatly to the stiffness and rigidity of the frame [fig. 10]. The gusset plates here should also be noted: these are provided with the same object of giving stiffness to the frame against wind strain. In buildings of ten to twenty stories the steel frame is an absolute necessity for stiff and sound construction as well as for the commercial value of the space gained and the rapidity with which this class of structure can be built. One might say it is built in the shop, and that it is only a question of assembling when it reaches the site; dimensions also being necessarily fixed, all interior fitment can be started at once, and when the building is ready can be accurately and quickly put into position. Thus the building's advancement does not entirely depend upon weather or even daylight, as work can be carried forward in the various shops and well in advance. Not only that, but the steel frame can be pushed ahead and the inclosing shell can follow at any floor, working, if necessary, on several stories at the same time, and starting interior work long before the exterior carcass is completed [fig. 11].

You will have noticed the great variety in the design of these buildings,* especially in regard to the expression or otherwise of the skeleton. I would like to draw attention to the use of terra-cotta and the possibilities in this direction when a steel frame is used, as terra-cotta can be attached to this steelwork better than any other material, is more fire-resisting than stone and granite, and allows an ornamental design to be built cheaply. The ornamentation is simply a question of the models which can be used over and over again. Terra-cotta also aids rapidity of construction.

A great many persons feel that rapidity in construction means poor work: this view I strongly oppose. It is possible that such a limit could be reached, and is perhaps

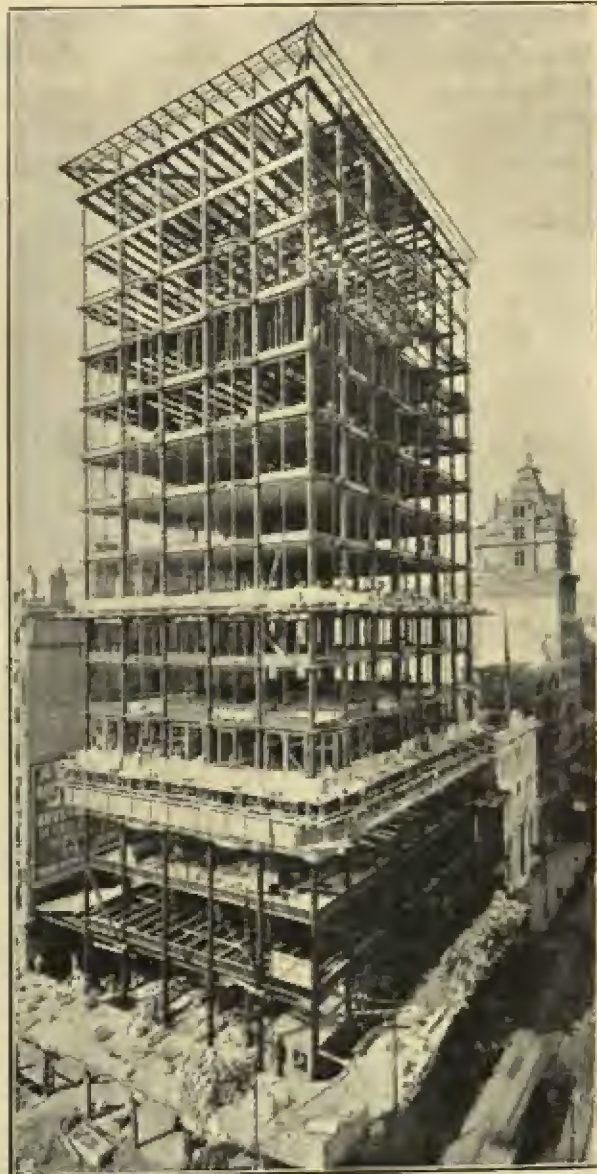


FIG. 11.—STEEL-FRAME CONSTRUCTION: INTERIOR WORK PROCEEDING ON SEVERAL STORIES AT SAME TIME.

* A large number of lantern slides were shown during the reading of the Paper.

sometimes ; but the general statement that fast work means poor work is untrue. For instance, it could not be called "rushing the work" to have a sufficiency of materials &c. ready to enable a number of men to be engaged all over a large building, doing their work properly, rather than a few men working in one section only and allowing the other sections to stand idle until they were through.

I am aware that there is a good deal of doubt among architects here as to the æsthetic legitimacy of steelwork, as there was in the United States at one time, although the opposition is much weaker now. It seems to me that steelwork is not outside the pale of the art of architecture. I have endeavoured to show that there are logical reasons for the adoption of steel frames in buildings ; and if there is reason, then surely steel cannot be inartistic, any more than timber. There is a question, of course, of the legitimate clothing for the skeleton as to how far this should be expressed ; but there is nothing against the framework itself, no more than the skeleton in our bodies. The analogy might be carried further and the floor construction referred to as the muscles and cartilages, the walls &c. as the flesh, and the hair, colour &c. being the various materials used by the architect to give beauty of detail.

Allow me, gentlemen, in conclusion to say that I think there are a great many things America can learn from England, an older country with much experience. On the other hand, there are things Englishmen can learn from Americans, who have gone ahead with energy, making mistakes, realising them, and beginning afresh again, as all youth does and will when it has the proper grit. The demands of modern life are different, and so are its needs, and we shall not be allowed, even if we should so choose, to stay where our fathers did. Your clients demand, as I have said, rapid and good construction, modern planning, artistic designing, and in fact everything that will render their work successful artistically, commercially, and constructionally, and, what is more, they want it at once.

I would add finally that your best friend is the builder, as you are his. You should work together. He must have plans, details, and instructions complete and definite at the earliest moment in order to accomplish the desired results. Give him full control and make him alone responsible. If you deal with one person for a portion of the work and with another for something else, you not only relieve the builder of a portion of that responsibility, but you actually hamper his progress, for then the other person looks to you and not to him.

DISCUSSION OF THE FOREGOING PAPER.

The President, Mr. JOHN BELCHER, A.R.A., in the Chair.

Mr. BENJAMIN GREENWOOD, President of the Institute of Builders, who rose at the invitation of the President, said it was his privilege to move a vote of thanks to Mr. Denell for his most interesting Paper. They were, he thought, filled with admiration for American methods, but they were not perhaps filled with envy. They admired what ingenuity could do, without being particularly anxious to do the same thing themselves. He was sure the circumstances which obtained in America would not fill the architectural profession with envy, as Mr. Denell stated that the remuneration of architects was the same as in England, but that there was very much more work required ; and the enormous staff which it appeared necessary for an

American architect to retain was somewhat appalling. As to the surveyor, he was extinct in the United States ; so quantity surveyors were not likely to be enamoured of the American system. He was sure the builders were not :—1s. 10½d. to 2s. 11d. for a mechanic per hour ! And take out all your quantities yourself ! He could assure them there was no envy on the part of the builders. They would not be desirous to emigrate just yet, for they thought that more favourable circumstances prevailed in the old country. He was surprised to hear of the custom in America of separate contractors being employed upon the same building for the different trades. In the old ages, and sometimes in the northern counties and Scotland, that

custom still prevails; but he should have thought that, with the rapidity of construction which obtained in America, the whole contract would be put into the hands of one contractor. Under the circumstances described in the Paper, if the different trades were put into the hands of different contractors, it became all the more phenomenal that such buildings could be erected in the space of time mentioned. He did not think the lofty buildings would ever be adopted in this country. It was like living in a pit to walk through the streets with such buildings on either side. Perhaps, after all, it was a fortunate thing that the first experiment made in London in the way of high buildings was such a monstrosity. He referred to the building near St. James's Park. He always thought that this was a thing to be regretted, but perhaps, after all, it was a blessing in disguise! It had given them such a horror of that kind of thing that it might at all events save it off perhaps for many generations to come. With reference to the British bricklayer, who had been vilified in the Press, he might say that the gentlemen who wrote those letters were comparing what the bricklayer did then, with what he had done in bygone years. He believed that the correspondence was justified at the time it was written, because a few years back there was no doubt that the output of work from the average English bricklayer was very much less than it had been a few years before. But those things altered when trade became slack, and the bricklayer knew that there were three or four men waiting outside to do his work; he would then do a more satisfactory day's work to keep himself in employment. It was delightful to hear the way they allocated the duties of the different floors in these high buildings: the ground floor to pay the ground rent &c., the next floor to pay the rates, the next floor the expense of erection and so on, and all the rest was profit—it was delightful in theory, and it would be more delightful in practice. Another extraordinary thing they had learnt was that the top floor was the highest in rental value, as it is quiet and has plenty of light and air. If they could only persuade Englishmen to believe that, they would accomplish a most desirable thing—not perhaps from the builder's point of view, but certainly from the property owner's. In conclusion the speaker moved a most hearty vote of thanks to Mr. Denell for the large amount of interesting information he had conveyed to them in so short a space of time.

MR. JOHN SLATER [F.], in seconding the vote of thanks, said that Mr. Denell had shown them a large number of buildings which, whatever might be thought of them architecturally or æsthetically, were undoubtedly interesting. The recent work of the American companies in London had been of much interest to architects and builders, because of the great rapidity with which the buildings were run up. He was not sure,

however, that this rapidity of construction was altogether a good thing. He presumed that nearly every architect who had had designing of buildings to do must have felt, as his work went on, that he wished to make certain little alterations here and there to improve his building; and, so far as he knew, the system of construction the American syndicates adopt practically precluded any variation when once the building was started. He was not sure that that was for the best for the finished building. With regard to what had been said about the English bricklayer, some few years ago he happened to have an experience of some Continental bricklayers. He had to look after the building of a lager-beer factory in this country, and the whole of the work was done by a German contractor, who imported German bricklayers here; and he was bound to say that it was an absolute revelation to him to see the way these bricklayers worked. They did in one day what the ordinary English bricklayer would have taken three days to do. He was not concerned to support or oppose the various trade unions; but they were told that the trade unions forbade bricklayers to lay more than a certain number of bricks per day. If that were the case the workmen themselves gave up all their individuality; there was no preference to be given to a good workman over a bad workman, because they were all brought down to the same hard-and-fast line. That was not the best system for getting the best work out of the individual man. Mr. Denell had said something about each city in America having its own building department, and that the larger cities had a competent staff to deal with building works and to calculate the strength of the various parts from the drawings. He maintained that that was no business of the municipality at all. The London County Council were doing the same thing now, and he maintained that they were taking upon themselves a responsibility which was not theirs at all. They were using up the time of their staff in a way they ought not to do, because if an architect or an engineer designed a building, the responsibility as to its safety and methods of construction was his. It was not wise of municipalities or county councils, or any body of that kind, to take upon themselves to go over the work of an architect who sent in drawings to ascertain whether his scantlings were sufficient, or that sort of thing. If the municipal bodies did this work, they relieved the architect of responsibility altogether, and although probably no architect would wish to be relieved of that responsibility, it was well known that a large number of buildings were put up in London and elsewhere without an architect at all; and if the municipal body took upon themselves the responsibility of saying whether those buildings were safe or not, the builder would care nothing at all about it, and there was a risk with the

municipal body of its subordinates being wrong, just as much as there was with the ordinary designer. He ventured to hope that they would not see in London any constructions like some of those shown them on the screen. There was one in particular, a building some 17 or 18 stories high that seemed little more than 12 feet wide. He personally could never inhabit any room of such a building without the feeling that it might be blown down. Apart, however, from criticisms of that kind they were very much indebted to Mr. Denell for giving them these particulars of American construction. Whatever they might think of them, it was evident that the methods would be employed here, and the more they knew about them, the better they would be able to decide whether it would be worth their while to employ such systems as these, or to depend upon the old, more conservative, and perhaps more reliable methods of the ordinary English contractor.

MR. HOWARD COLLS, asked by the President to speak, referred especially to the fear that such tall buildings as those shown them should be erected in London. One of the most charming—at least what they in America called most charming—buildings in New York was the "Flat-Iron" Building. But the draught there was so strong that no lady could walk by the side of that building—she would be frightened to do so: her clothes would become disorganised and be blown to pieces. Some of the buildings he had seen in New York were very high, two of them at the entrance of Fifth Avenue struck him as imposing-looking, because they formed a sort of noble entrance to that thoroughfare. But they were isolated and opposite each other. If buildings like these had been erected all along the street, and the general buildings of New York were of that height, there would never be any sun in the streets at all; and he doubted if anybody would be able to walk about there. It would be obvious to everybody that if they put up buildings in streets which prevented the streets being used, the result could not be considered satisfactory. There seemed to be an idea that a quickly erected building must necessarily be an advantage. Speed of course was very desirable, but the American system was not so much a system of speed as of intense hurry. They never seemed to do anything quietly or thoughtfully—they did it in the quickest possible time that it could be done in. If one goes to America one can have one's boots cleaned, one's hair cut, and one's hands manicured at the same time! Everything seemed to be done there with that idea; and what he feared was that this system of hurry could not be conducive to good work. They talked about the splendid work of old days: when a man built a mansion, he would put up the brickwork one year and leave it, put the plaster on the next year and leave it, and do the joiner's work the

following year; and the result was magnificent. That system, of course, could not obtain now. But the mere love of hurry, for hurry's sake, was a grave disadvantage in modern buildings. No building that was constructed beyond a certain speed could possibly be as good as one which was more leisurely, but still speedily and properly done.

MR. WM. WOODWARD [F.] said that if there was a man in that room from whom he should not care to differ it was his friend Mr. Howard Colls; but he thought Mr. Howard Colls and both the previous speakers had rather misapprehended the purpose of the Paper. He had not detected in the Paper any desire whatever on the part of Mr. Denell, even to suggest that they should adopt in London the buildings which prevailed in America. His object rather was to tell them exactly what took place in America, so that they might perhaps even in London, gather some lessons which would be useful to them, bearing in mind the fact that they must not rest quietly with the old methods of construction, but must go with the times, and conform to those requirements which were certainly as much needed in London as they were in America. He thoroughly agreed with what Mr. Slater had said with regard to some of their municipal authorities taking upon themselves responsibilities outside their province. Not only that, but in taking those responsibilities upon themselves they considerably hampered the architect in his dealing with the building. Architects in London were quite as capable of designing buildings with perfect construction as any employers of our borough councils or the London County Council; and he thought those bodies went out of their way to hamper the architect in the execution of his work; to entail, as they often did, considerable unnecessary expense; and to retard the building to the detriment of the client in every particular. Mr. Denell had spoken of the bricklayer, and said that our tirade should not be confined to him. He quite agreed. They only selected the bricklayer because one could count the number of bricks a man could lay in a day, but it was not so easy to count the yards superficial of the plasterer's work. But if there was one individual in the building trade who should bring himself under the castigation of everyone who desired honest labour and manliness in the building trade, it was the plasterer. The plasterer was quite as bad as the bricklayer—some thought he was a great deal worse. But it was not the fault of the bricklayer. Mr. Denell had said that the English bricklayer was capable of doing as excellent work as any foreign or American bricklayer. Although Mr. Slater had trodden upon the question very gently, he (the speaker) did not hesitate to say that the present state of idleness was due to one thing, and one thing only, and that was trade unionism.

It was just as well that they should have it out and say at once, that was the sole reason. Mr. Denell had said that the wages in America ranged from 1s. 10½d. to 2s. 11d. per hour for an eight hours' day, and for labourers from 1s. to 1s. 6d. He took that to mean that in America the trade union principle of levelling everyone down, as Mr. Slater had said, did not prevail; otherwise those wages would not range from 1s. 10½d. to the higher amount per hour. Therefore he hoped that in that respect the British workman might learn a lesson and find that the idea that an honest, healthy, and upright man should be confined to the same wage as the idle and drunken was ridiculous and absolutely wrong. There was one important matter which prevailed in America, and sometimes prevailed in London, and ought to prevail a great deal more, and that was looking ahead. Very often the whole secret of delay on a building was because the builder or builder's foreman had not sufficiently looked ahead; and he differed from Mr. Howard Colls in that respect. He did not see why a building should not be quite as good if it were rapidly erected as one that was slowly erected, provided there was space for the various operatives to do their work. There was no reason whatever to his mind why these large buildings should not be done as easily and well in six months as in twelve, given certain conditions. With regard to sub-contractors, he thought that the fewer sub-contractors there were on a building the better. It was the idea of sub-contractors on buildings which led to so much delay and created so much friction between the sub-contractor and the general contractor. With the few exceptions of expert matters, there was no reason whatever why the general contractor should not carry on his building and embrace within his charge the whole work of the sub-contractors who were now employed. With regard to the absence of a quantity surveyor, that might or might not be conducive to rapidity. If the quantities were properly taken, he could not see why one man or two men should not take out the quantities as well as twenty different contractors. But perhaps in America they had some more rapid system of arriving at estimates than we have in this country. Whether the builders suffered or whether the clients suffered he did not know. There was another very important matter which concerned architects now. In very large buildings (he was not speaking of ordinary buildings) demanding steel construction, the architect of to-day—at least he would speak for himself—was not capable of doing the whole of the important constructive steel engineering work. There were, as they knew, certain architectural engineers who designed this construction, and in America they had engineers for this work. But a question that would arise for the architectural profession soon was, Whether the designing of this important engineering work was part and parcel of

the architect's duty for which he should be paid, or whether it was part and parcel of the engineer's duty, which the client should pay for apart from the charges of the architect? In every large building that important question must arise; and a hint as to how it could be met could be got from the system adopted in America, where Mr. Denell told them that although the engineering design was made in the architect's office, the contractor was entirely responsible for the details of the engineering work carried out. There was one other important matter where they could wish that the American system prevailed in London. Each city had its own building department, which was the only authority to be consulted. Would that that system prevailed in London, and that having taken our drawings to one department we could come away from that department with the buildings approved or disapproved, without having to go to half a dozen authorities, each with its own fad, before the work could be proceeded with. With reference to terra-cotta, there was another thing from which they might take a lesson from America. If they could not afford fire-resisting construction, they might at least adopt terra-cotta covering. There were inventions, too, for treating timber which would make it practically as fire-resisting as steel and concrete. Steel framework was now coming largely into use in London, and he believed the whole Meeting would be with him in thanking Mr. Denell most heartily for having concentrated in a short Paper such valuable information, giving exactly what took place in America—something which they might remember and perhaps adopt in London.

MR. ANDREW T. TAYLOR [F.], late of Montreal, Canada, said he was very glad of the opportunity of saying a word or two upon the subject, as it was one he had been intimately acquainted with for some time. He should like to congratulate the lecturer upon the simple, straightforward practical Paper he had given them. As they said in the States, he had put no frills on, but had given them a very delightful practical Paper. He had not expressed any opinions of his own, but simply put before them facts; and he thought that was what they wanted. He would also congratulate him upon having disclaimed all responsibility for the title of his Paper. He (the speaker) took exception to the title "American methods of erecting buildings." Speaking for Canada—the larger part of the North American continent—he thought it should have been "United States Methods." It was sometimes forgotten that we have a magnificent possession on the other side, which was as fine, and would in time be finer than the United States. The United States recognised that themselves, because their people were coming over to Canada at the rate of 50,000 a year, foreseeing that the future was going to be in the North

of America and not in the South. He endorsed almost everything that the lecturer had said. After all, the great difference of procedure between here and the United States lay in the evolution of the sky-scrapers. But before touching on these might he be permitted to say that he thought the gentleman who proposed the vote of thanks had misunderstood the lecturer on one point? The lecturer did not say—at least, so far as he gathered—that the contracts were divided amongst the several trades. They were generally taken by one contractor; but if the work was large he sub-let it himself to other contractors; the architect only, however, dealt with the one contractor. It was manifestly impossible that with a building costing, say, from five to ten million dollars, one man could do the whole work himself, and that was where the quickness and rapidity of operation came in. The moment the contractor had signed the contract, the architect had all the details ready, and that meant a good deal of work. It was not the custom here, and in some other places, to do that; but everything must be detailed, and every part of the design completely elaborated by the time the contractor signed the contract. What was the result? Every department of operations could start at once with its work. While the steel frame was going up the stone work was being cut, and before the steel frame was finished probably the stone work was ready to go up; and so, too, with the work inside; the joinery work, the plastering and other work. The moment the building was ready for it, the various finishing works were ready to be put in. In that way, by mapping out everything carefully in the beginning, one can get speed. In regard to what Mr. Slater had said, from his (the speaker's) own experience on the other side of the Atlantic, it was very essential that the municipal authorities should have some right of veto upon the plans put before them. It must be remembered that many architects on the other side were not duly qualified; some were only just builders who had blossomed into architects; so that many plans were sent in for signature with a good many things far from being right, and it was absolutely necessary that there should be some authority in municipal matters who would be competent to deal with them. They had seen several cases in which buildings erected in New York had fallen down before they were finished; that was simply because the municipal authorities were remiss as well as the original designers of the structures. He had occasion himself to take part in the drawing up of by-laws for a city, and in view of that he had to examine the by-laws of the principal cities in the United States; so that he was not speaking merely from hearsay. He was quite sure that the drawings of the members of the Institute would not require any such supervision, but they were not all members of the Institute on the other side. With regard to sky-

scrapers, of course the question of design did not come before them that evening—it was only their construction. But the two were so joined together that it was very difficult to discuss the one without trenching upon the other. He would only say in a word that of all the hideousities the sky-scrapers were the worst, and he trusted they would not be allowed to come and blossom and grow up on this side of the Atlantic. They had ruined some of the finest streets in New York, and if they went on they would have canyons and caves instead of streets. Streets at least 300 feet wide were required to admit of sky-scrapers; that meant laying out the cities *de novo*. In some of the streets running from Broadway the blasts and gales which sometimes drove down them were most alarming. With regard to the "Flat-Iron" Building, it was the fact that people had been blown off their feet, and it was not an uncommon occurrence for the plate-glass windows of the buildings opposite to be broken. He was not so sanguine as the lecturer of the durability and life of those high buildings. That side of the problem had to be faced. The lecturer seemed to think that casing the steel construction in cement was all right. Whatever was the custom to-day—and they were very much more careful than they were some years ago—he knew this, that when they began those buildings, and for many years after, so great care was not taken; that the painting was very faulty, and rust commenced on the steel uprights. Then they were inclosed in wet brickwork and covered up and no more seen. He very much feared that rust and deterioration were going on inside those brick piers, and some day there might be a catastrophe. It was awful to think what would be the result. Their duration of existence had been too short yet to admit of a satisfactory test, but in fifty or sixty years he very much feared that something of that sort would happen. He cordially supported the vote of thanks.

Mr. E. W. HUDSON [A.] said he understood that an existence of 25 years was reckoned to be a remunerative return for the capital expended, and that after that these high buildings might be made scrap-heaps. When the lecturer spoke of their lasting as long as other buildings, they might perhaps have some standard as to the age of those other buildings.

THE PRESIDENT said that in putting the vote he should like to add his thanks for the Paper, which had raised so many interesting points of discussion. There was no doubt that we could learn, and had learned, a great deal from the American; but we allowed him first of all to make the trial and experiment, and then if it succeeded, we followed; and if the world progressed he had no doubt it was owing very much to American energy and "go." We in this country and the countries of Europe generally moved much more slowly; we

looked upon everything that was novel with some suspicion. Indeed, if we architects suggest to a client that some new method should be adopted, he immediately turns upon us and requires to know where this had been done before and where he could see it, or whether it was so done in the days of Queen Anne! In America it was different. There everything that was novel was approved of, and youthful daring of any kind was extolled and accepted. If a man made an experiment in America and succeeded he was soon raised to a position of distinction and honour, and made his pile. If it failed, the country was so large that he could move a thousand miles off and start again! Mr. Denell had told them many things of value and interest, and he had certainly in two or three instances made them gaze with astonishment; for instance, with regard to an architect's establishment costing £50,000 a year, and that his remuneration was the same as ours. Whether the architect was expected to get out the quantities and keep a tame engineer on the premises and other luxuries he did not know. There must be some means of obtaining a *quid pro quo*. No doubt the extra cost of a building made a commission of five per cent. considerably beyond what it was here. They had learned also that builders sometimes passed through an architect's office, and that the builder took out his own quantities (they seemed remarkably trusting in America); that they make out plans and specifications, he presumed, for the sanitary and mechanical and frame-building construction; and that was all to save the architect trouble and to relieve him of unnecessary worries. That was exceedingly satisfactory and nice, but of course it must be paid for; and he had no doubt the extraordinary cost of the buildings would somewhat recoup them. What was the gain therefore? They got increased speed in execution, but, as the scientific men told them, they could not have something for nothing; so that if they wanted increased speed, they must pay the corresponding additional cost of the "power." He thought they had learned two lessons from the Paper: one, that they must not lag behind; and the other, that they must take every advantage of all the improved methods that they could consistently with the

production of good work. In the steel-frame work they had a very serious problem, and he could not help feeling that if anything of that sort were developed to any great extent, they should all have to become engineers instead of architects. Architects seemed to him in such cases to take a very secondary place, and it was necessary for them to look the thing in the face and ascertain whether they were in a position to become engineers as well as architects.

MR. DENELL, in reply, said he had been asked to read a Paper on "American Methods of Erecting Buildings." That meant a great deal. It was not the why, the pros and cons of what should be done in England, but "American methods of erecting buildings." That was what he had tried to explain. He knew perfectly well that the laws here were different, and that the conditions were different; and so he thought the quickest way round was straight there first, leaving it to architects to apply and do as they wished in regard to it. With regard to the labour wage, he might explain that it depended upon the trade. The bricklayer or a steel erector, where it was dangerous work, received perhaps the highest; the wage of carpenters and others depended upon their work; and it was all fixed by the unions. As regards the unions, he hoped they in England would never have the experience that they had in America. With regard to work being done by sub-contractors, what he meant to convey was that the builder was the general contractor, but he sub-let work again—that was done in the shop; the other work he did himself. The architect only dealt with the builder. The custom there was not for the builders to have their shops as was the case here. With regard to the life of the buildings and the corrosion of steel and concrete, he saw a gentleman among them that evening—M. Mouchel—who might say a few words on the subject.*

THE PRESIDENT, in bringing the proceedings to a close, directed the attention of the Meeting to a number of drawings on the walls kindly lent by Mr. Denell in further illustration of his subject.

* See M. Mouchel's Paper on "Hennibique Ferro-concrete" [JOURNAL for 26 Nov. 1904.]

THE PRUSSIAN GOVERNMENT REGULATIONS FOR THE USE OF REINFORCED CONCRETE IN BUILDINGS.

THE following translation of these rules, for which the Institute is indebted to Mr. Wm. Dunn [F.], may be of interest to architects and engineers engaged on works of reinforced concrete:—

I. GENERAL REGULATIONS.

A. Examination.

§ 1.

1. A special examination by the buildings authority must precede the erection of any building or portion of a building in reinforced concrete. For this purpose, any application for permission to erect a building to be constructed in whole or in part in reinforced concrete must be accompanied by drawings, statical calculations, and descriptions, from which the general arrangement and all important details may be seen.

Should the building owner or contractor only decide during the progress of the erection on the form of construction to be adopted, the building authority must demand the production of the above data.

2. The origin and nature of the materials to be employed in the preparation of the concrete, and the proportions in which they are to be mixed, must be stated in the description.

3. The application must be signed by the building owner and by the contractor charged with the erection.

§ 2.

1. The quality of the materials to be employed in the preparation of the concrete must be attested by certificates from an official testing station. Such certificates shall in general be not more than one year old.

2. Only Portland cement fulfilling the Prussian specifications may be employed. The certificates as to quality must contain statements as to the constancy of volume, time of setting, and fineness of grinding, and also as to the tensile and compressive strength.

3. Only sharp sand, gravel, or other recognised material of suitable coarseness may be employed in the preparation of the concrete.

4. The compressive strength attained by the concrete to be employed, when mixed in the prescribed proportions, after 28 days, must be stated in the description (§ 1. par. 1)

§ 3.

1. The method of statical calculation employed must ensure at least the same degree of safety as that calculated by the rules contained in Section II. of these Regulations.

2. In methods of building yet untried, the building authorities can make their approval dependent on the results of previous experimental structures and test-loads.

B. Erection.

§ 4.

1. The building authority may cause the quality of the materials in course of employment, and also the strength of the finished concrete, to be examined at an official testing station, or in such other manner as may appear desirable. The strength tests may also be carried out on the works by means of a concrete press, the accuracy of which has been certified by an official testing station.

2. The concrete blocks intended for testing must be of cubical form, 20 or 30 cm. edge * according to the coarseness of the aggregate. The blocks must be marked with the date of preparation and stamped for identification, and preserved according to the instructions of the building authority until hardened.

3. The cement is to be delivered in the original packages.

§ 5.

1. The concrete is, as a rule, to be mixed by weight.

2. The measuring out may, however, be performed by means of gauging-boxes, a separate gauging-box being used for each material. Each such gauging-box shall contain, when filled and struck off level, the quantity corresponding with the prescribed mixing proportions, as determined by a trustworthy weighing machine.

§ 6.

The concrete is only to be prepared in such quantities as are required for immediate use. It must be put in place immediately after mixing and uniformly rammed. If in a plastic state, the ramming must be continued at least until water appears on the surface. In ramming, properly shaped stamps of appropriate weight must be used.

§ 7.

1. Especial care must be taken that the ironwork for reinforcement is correctly placed and thoroughly coated with cement mortar.

2. The concrete is to be filled in in separate layers not exceeding 15 cm. in thickness, each layer being thoroughly rammed.

3. Main walls must be commenced and raised simultaneously throughout their whole length. Care must be taken to make good connection with adjoining cross-walls. Layers which complete a story must be finished off level.

4. The planking must possess sufficient resistance to bending and to shaking during ramming, and must be so arranged as to be removable without danger to the necessary supports remaining in place.

* 8 inches to 12 inches.

5. All shaking must be avoided in removing the planking and supports.

§ 8.

1. When a fresh layer of concrete is to be laid on the surface of a recently laid layer, it is sufficient to wet the surface thoroughly.

2. When work is recommenced on a layer of hardened concrete, the old surface must be scraped, swept clean, and wetted.

§ 9.

In the construction of walls and columns in buildings of more than one story, the erection of those parts in an upper story is not to be commenced until the story below has been approved.

§ 10.

1. Work is not to be carried on during frost, except in cases in which the possibility of damage by frost is excluded.

2. On the beginning of milder weather after long-continued frost, work is only to be recommenced after the permission of the building authority has been obtained.

§ 11.

1. Until sufficiently hardened, the concrete must be protected from the action of frost or from premature drying, and also from shaking or overloading.

2. The vertical centering of concrete columns and the flat centering of floors of 1.50 metre span or under may be removed not less than three days, all other centering and struts not less than 14 days, after the completion of the ramming.

3. Should the ramming be completed shortly before the commencement of frost, especial care is to be taken in removing the centering and struts.

4. Should frost commence during the period of hardening, the periods prescribed in § 2 are to be increased by the duration of the frost.

§ 12.

A time-book of the work is to be kept, and must be at all times open to inspection on the works. Days of frost must be entered, with a record of the temperature and of the time of day at which it was measured.

C. Approval.

§ 13.

1. When inspected for approval, portions of the building must be exposed, in positions determined by the building authority, so that the mode of construction may be seen. The right to make special tests to determine the quality of the material, the hardness attained, and the strength is reserved.

2. Test-pieces for the determination of the hardness according to § 4, par. 2, may be taken from portions of the finished building.

3. Should loading tests be considered necessary, they are to be carried out according to the instructions of the representative of the building authority. Due notice is to be given to the building owner and the contractor, and their attendance invited.

4. When a strip cut from the floor decking is subjected to a loading test, the load is to be uniformly distributed over

the whole strip, and is not to exceed the weight of the floor and twice the working load. Should such a strip be tested without removal from the floor, this load is to be increased by one-half. Consequently if q = the dead load and p = the live load, the test load in the former case is $q + 2p$, and in the latter $1.5q + 3p$.

II. RULES FOR STATICAL CALCULATION.

A. Dead Load.

1. The weight of concrete, inclusive of the metal for reinforcement, is to be taken as 2400 kg. per cubic metre,* unless a different weight is definitely determined.

2. In the case of floors, in addition to the weight of the structural portions, the weight of the flooring material is also to be ascertained from accepted data.

B. Determination of External Forces.

1. In members subjected to bending, the moments and reactions are to be calculated by the formulae for freely supported or continuous beams, according to the mode of support and distribution of load.

2. For freely supported decking the free opening plus the depth, for continuous decking the distance between centres of supports, is to be taken as the span.

3. For decking, which is continuous over several spans, the bending moment in the middle of a panel is to be taken as four-fifths of that which would exist in a freely supported panel,† unless the true moments and reactions can be ascertained by calculation or experiment.

4. The same rule holds good for beams, T-beams, and detached girders, with the exception, however, that no end-moment is to be taken into account unless special structural arrangements for fixing the ends securely have been made. The span is to be taken as the free opening plus the width of one support.

5. For T-beams the flange is not to be taken into account for a width of more than one-third of the length of the beam.

6. For columns the possibility of eccentric loading is to be taken into account.

C. Determination of Internal Forces.

1. The modulus of elasticity of steel is to be taken as fifteen times that of concrete unless a different ratio is ascertained.

2. The stresses in the cross-section of members subjected to bending are to be calculated on the assumption that the extension is proportioned to the distance from the neutral axis, and that the reinforcing metal takes the whole of the tensile stresses.

3. Shearing stresses are to be ascertained, unless the form and construction of the members are such that they are at once seen to be insignificant. When no means of taking them up are provided in the arrangement of the members, they must be taken up by suitably shaped steel reinforcement.

* 150 lb. per cubic foot.

† Bending moment = $\frac{Wl}{10}$ for uniformly distributed loads.

4. So far as possible, the steel for reinforcement is to be of such form that displacement relatively to the concrete is prevented by its form. Where this is not the case, the adhesive stresses must be calculated.

5. Calculations of the flexure of columns are to be made whenever the height exceeds eighteen times the least diameter. Transverse connections, so arranged as to maintain the steel rods in their relative positions, are to be fixed at a distance from each other not exceeding thirty times the diameter of the rods.

6. Euler's formula is to be used in calculating the flexure of columns.

D. Permissible Stresses.

1. In members subjected to bending, the compressive stress in the concrete shall not exceed one-fifth of its ultimate compressive strength; the tensile and compressive stresses in the steel shall not exceed 1200 kg. per sq. cm.*

The following values of the loads are to be assumed:

- For parts of structures subjected to moderate shaking, as floors of dwelling-houses, offices, and shops: the actual live and dead loads.
- For parts of structures subjected to considerable shaking or to greatly varying loads, as floors of public halls, dancing-rooms, factories, or warehouses: the actual dead load and 50 per cent. over the live load.
- For parts subjected to heavy shocks, as roofs of vaults underneath passage-ways and courtyards: the actual dead load plus twice the live load.

2. In columns the concrete is not to be stressed beyond one-tenth of its ultimate compressive strength. In calculating the steel reinforcement for flexure a factor of safety of 5 is to be allowed.

3. The shearing stress in the concrete is not to exceed 4.5 kg. per sq. cm.†. When a greater resistance to shearing is shown, the working stress is not to exceed one-fifth of the ultimate strength.

4. The adhesive stress is not to exceed the permissible shearing stress.

III. METHODS OF CALCULATION WITH EXAMPLES.

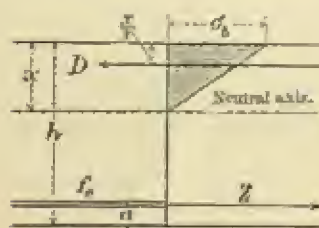


FIG. 1.

A. Simple Bending.

With simple reinforcing rods of area f_s for a width of beam or decking b , n being the ratio of the coefficient of elasticity of the steel to that of the concrete, the distance of the neutral axis from the upper edge

follows from the equation of the statical moments of elements of area:

$$(1) \quad \frac{bx^2}{2} = nf_s (h - a - x) \text{ and}$$

$$(2) \quad x = \frac{nf_s}{b} \left[\sqrt{1 + \frac{2b(h-a)}{nf_s}} - 1 \right]$$

Equating the moments of the external and internal forces:

$$(3) \quad M = \sigma_c \cdot \frac{x}{2} \cdot b \left(h - a - \frac{x}{3} \right) = \sigma_s f_s \left(h - a - \frac{x}{3} \right)$$

where σ_c is the greatest compressive stress in the concrete, and σ_s the mean tensile stress in the steel. Hence

$$(4) \quad \sigma_c = \frac{2M}{bx \left(h - a - \frac{x}{3} \right)}$$

$$(5) \quad \sigma_s = \frac{M}{f_s \left(h - a - \frac{x}{3} \right)}$$

The calculation remains the same for T-beams if the neutral axis lies in the flange itself or at the lower angle between flange and web. If the neutral axis lies in the

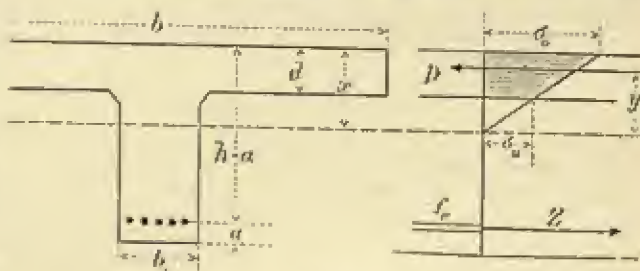


FIG. 2.

web, the small compressive stresses in the web may be neglected.

Then (fig. 2)

$$\sigma_c = \sigma_s \cdot \frac{x - d}{x}$$

$$\sigma_c = n\sigma_s \cdot \frac{h - a - x}{x}$$

$$\frac{\sigma_c + \sigma_s}{2} \cdot bd = \sigma_s f_s$$

or, inserting the given values of σ_c , σ_s , and σ_s ,

$$(6) \quad x = \frac{(h-a)nf_s + \frac{bd^2}{2}}{bd + nf_s}$$

Since the distance of the centre of gravity of the polygon of pressures from the upper edge is

$$x - y = \frac{d}{3} \cdot \frac{\sigma_c + 2\sigma_s}{\sigma_c + \sigma_s};$$

then, inserting the above value of σ_c

$$(7) \quad y = x - \frac{d}{2} + \frac{d^2}{6(2x-d)}$$

$$(8) \quad \sigma_s = \frac{M}{f_s (h - a - x + y)}$$

* 17,000 lb. per sq. inch.

† 64 lb. per sq. inch.

$$(9) \quad \sigma_a = \sigma_c \cdot \frac{x}{n(h-a-x)}$$

B. Centric Pressure.

If F is the area of the concrete surface under pressure, and f_c that of the total reinforcing metal, the working load is

$$(10) \quad P = \sigma_b (F + n f_c)$$

so that

$$(11) \quad \sigma_b = \frac{P}{F + n f_c}$$

$$(12) \quad \sigma_c = n \sigma_b = \frac{n \cdot P}{F + n f_c}$$

C. Eccentric Pressure.

The calculation is made as in the case of homogeneous materials, except that in the expressions for cross-sectional area and moment of inertia n times the cross-section of the reinforcing metal is added to the section of the concrete. Any tensile stresses produced must be taken up by the reinforcing steel.

D. Examples.

1. To determine the maximum stresses occurring in the concrete and the steel of a dwelling-house floor, 2 metres wide and 10 cm. thick, with reinforcing steel of 5 sq. cm.

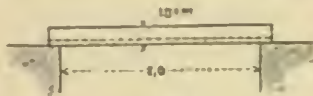


FIG. 3.

section for each 1 metre width of floor, the steel being 1.5 cm. from the lower surface.

The dead load of the floor per sq. metre is

0.1 × 2400 =	240 kg.
Covering with rolled slag 10 cm. thick	60 ..
Wood floor 3.3 cm. thick with	20 ..
Plaster 1.2 cm. thick	20 ..
Live load	250 ..
Total	590 kg.

Then:

$$M = \frac{590 \times 2.1^2 \times 100}{8} = 32500$$

$$x = \frac{15 \times 5}{100} \left[\sqrt{1 + \frac{2 \times 100 \times 8.5}{15 \times 5}} - 1 \right] = 2.9 \text{ cm.}$$

$$\sigma_b = \frac{2 \times 32500}{100 \times 2.9 \times (8.5 - 0.97)} = 30 \text{ kg. per sq. cm.}$$

$$\sigma_c = \frac{32500}{5 \times 7.53} = 865 \text{ kg. per sq. cm.}$$

The compressive stress allowable in the concrete is 30 kg. per sq. cm. if the concrete employed has an ultimate compressive strength of $5 \times 30 = 150$ kg. per sq. cm.

2. Given a freely supported flat flooring slab with simple reinforcement and of 2 metres span. The live load is 1000 kg. per sq. m. for a factory. To determine the requisite thickness of the concrete and the steel, assuming

the concrete employed to have an ultimate compressive strength of 200 kg. per sq. cm.

For calculating the dead load, the thickness of the slab may be taken provisionally as 15 cm., so that the span to be used in calculation is 2.15 metres.

The dead load for a slab per sq. metre is

0.15 × 2400 =	360 kg.
Covering with rolled slag, 20 cm. deep	120 ..
2 cm. layer of cement	40 ..
Total	520 kg.

Then

$$M = \frac{520 + 1.5 \times 1000}{8} \times 2.15^2 \times 100 = 116700$$

$$\text{Since } \sigma_b = \frac{200}{5} = 40$$

$$\text{and } \sigma_c = 1200$$

$$\text{then, as } \sigma_c : \sigma_b = n(h - a - x) : x$$

$$1200 : 40 = 15(h - a - x) : x$$

$$h - a = 3x$$

Inserting these in Equation 5* we have

$$1200 = \frac{M}{\frac{5}{3} x \left(\frac{3x - x}{n} \right)}$$

$$x^3 = \frac{116700}{5333} = 21.8826$$

$$x = 4.68 \text{ cm.}$$

$$h - a = 3 \times 4.68 = 14.04$$

thus

$$h = 15.54 \text{ cm.}$$

$$f_c = \frac{5}{3} x = 7.8 \text{ sq. cm.}$$

Ten round steel rods of 10 mm. diameter, having an area of 7.85 sq. cm., will suffice per metre width of floor.

3. A T-beam of the dimensions indicated in the sketch, and being 10 metres long with a clear span of 9.6 metres carries a load of 500 kg. per sq. metre in an office. The reinforcement consists of 8 round steel bars of 2.2 cm. diameter,

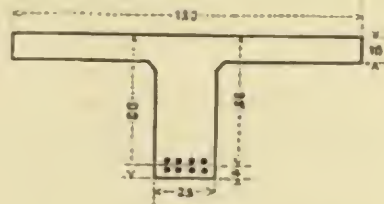


FIG. 4.

having a combined cross-sectional area of 30.4 sq. cm. It is required to find the maximum stresses in the steel and in the concrete.

* And finding f_c from Eq. 1.

$$\frac{100x^2}{2} = 15f_c (2x)$$

$$50x^2 = 30f_c x$$

$$\frac{5}{3} x = f_c$$

W. D.

The dead load is thus made up: The weight of the T-beam is:

$(1.5 \times 0.10 + 0.5 \times 0.25) \times 2400 =$	660 kg.
Weight of 6 cm. layer of rolled clinker . . .	36
" " 2 " cement floor . . .	40
" " flooring . . .	14
for 1 sq. metre . . .	90 kg.
Or for 1.5 sq. metre = 1.5×90 . . .	135 "
Live load . . .	500 "
Total . . .	1295

or, roughly, 1300 kg. for 1 metre length of beam.

Then

$$M = \frac{1300 \times 10^3 \times 100}{8} = 1625000$$

$$x = \frac{56 \times 15 \times 30.4 + \frac{150 \times 10^3}{2}}{150 \times 10 + 15 \times 30.4} = 16.88 \text{ cm.}$$

$$y = 16.88 - 5 + \frac{10^3}{6(33.76 - 10)} = 12.58 \text{ cm.}$$

$$\sigma_c = \frac{1625000}{30.4 \times 51.7} = 1034 \text{ kg. per sq. cm.}$$

$$\sigma_s = 1034 \times \frac{16.88}{15 \times 39.12} = \text{about } 30 \text{ kg. per sq. cm.}$$

The transverse force at the supports is

$$V = \frac{9.6 \times 1300}{2} = 6240 \text{ kg.}$$

The shearing stress in the concrete is therefore

$$\tau_c = \frac{V}{b_1(h - a - x + y)} = \frac{6240}{25(56 - 16.88 + 12.58)} \\ = (\text{roughly}) 5 \text{ kg. per sq. cm.}$$

The permissible value of the shearing stress is therefore somewhat exceeded. It is advisable to bend the ends of the four upper steel rods upwards. The point at which the bending should commence is given by the condition that

$$V_1 \text{ should there be only } \frac{6240 \times 4.5}{5} = 5616 \text{ kg. This is fulfilled when } x = \frac{6240 - 5610}{1300} = \text{about } 0.5 \text{ m.}$$

The adhesive stress on the four lower rods amounts to

$$\tau_1 = \frac{25 \times 5}{4 \times 3.14 \times 2.2} = 4.5 \text{ kg. per sq. cm.}$$

4. A continuous T-beam of the section shown below, and on four supports, has to carry 500 kg. per sq. metre in

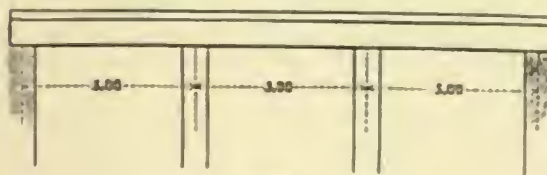


FIG. 5.

a warehouse. To determine the maximum stresses arising in the concrete and the iron.

The dead load for 1 metre length of beam is

$$(1.50 \times 0.10 + 0.30 \times 0.25) 2400 = 540 \text{ kg.}$$

and the remaining load, as in the last example, = 135 "

Total 675 kg.

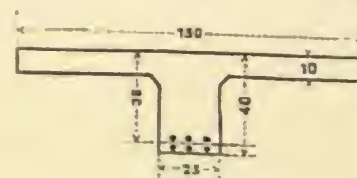


FIG. 6.

The moments are:

(a) At 0.41 of the first span:

$$M_g = + 0.03 \times 675 \times 5^2 \times 100 = + 134800 \\ - M_p = - 0.02 \times 500 \times 5^2 \times 100 = - 25000 \\ + M_p = + 0.10 \times 500 \times 5^2 \times 100 = + 125000 \\ \text{therefore } M_{\text{max.}} = + 259800;$$

(b) Over the centre support:

$$M_g = - 0.10 \times 675 \times 5^2 \times 100 = - 168750 \\ - M_p = - 0.11667 \times 500 \times 5^2 \times 100 = - 145838 \\ + M_p = + 0.11667 \times 500 \times 5^2 \times 100 = + 20838 \\ \text{therefore } M_{\text{max.}} = - 314588;$$

(c) In the centre span:

$$M_g = + 0.025 \times 675 \times 5^2 \times 100 = + 42188 \\ - M_p = - 0.05 \times 500 \times 5^2 \times 100 = - 62500 \\ + M_p = + 0.075 \times 500 \times 5^2 \times 100 = + 93750 \\ \text{therefore } + M_{\text{max.}} = + 135938 \\ - M_{\text{max.}} = - 20312$$

The stresses are therefore:

(a) At 0.41 of the first span:

The reinforcement consists of six round bars of 11 mm. diameter and 7.6 sq. cm. combined sectional area, 4 cm. above the lower surface.

Since the neutral axis falls in the flange, its position is found by Equation (2).

$$x = \frac{15 \times 7.6 \left[\sqrt{1 + \frac{2 \times 150 \times 36}{15 \times 7.6}} - 1 \right]}{150} = 6.69 \text{ cm.}$$

Equations (4) and (5) then give:

$$\sigma_c = \frac{2 \times 259800}{150 \times 6.69 \times 33.77} = 15.3 \text{ kg. per sq. cm.}$$

$$\sigma_s = \frac{259800}{7.6 \times 33.77} = 1011 \text{ kg. per sq. cm.}$$

(b) Over the centre support:

Since the concrete is to take up no tensile stresses, only the web with the reinforcement at the top has to be considered for the negative moment at the support. The position of the neutral axis is again found from Equation (2):

$$x = \frac{15 \times 7.6 \left[\sqrt{1 + \frac{2 \times 25 \times 36}{15 \times 7.6}} - 1 \right]}{25} = 14.1 \text{ cm.}$$

$$\sigma_c = \frac{2 \times 314588}{25 \times 14.1 \times 31.3} = 57 \text{ kg. per sq. cm.}$$

$$\sigma_s = \frac{314588}{7.6 \times 31.3} = 1322 \text{ kg. per sq. cm.}$$



FIG. 7.

These stresses exceed the permissible values; they may be reduced by increasing the reinforcement. If two more steel rods of the same diameter be added, the stress in the concrete becomes 52 kg. and the stress in the steel 1072 kg. per sq. cm.

(c) In the centre span:

The $+M_{\max.} = 135938$ is considerably less than at 0.4/ of the first span. Three round steel rods of the total cross-sectional area 3.8 sq. cm. are sufficient. Then

$$z = \frac{15 \times 3.8}{150} \left[\sqrt{1 + \frac{300 \times 36}{15 \times 3.8}} - 1 \right] = 4.86 \text{ cm.}$$

$$\sigma_b = \frac{2 \times 135938}{150 \times 4.86 \times 34.38} = 11 \text{ kg. per sq. cm.}$$

$$\sigma_s = \frac{135938}{3.8 \times 34.38} = 1046 \text{ kg. per sq. cm.}$$

For $-M_{\max.} = -20312$ it is sufficient to lay a wire of 1.13 sq. cm. section in the upper portion. Then

$$z = \frac{15 \times 1.13}{25} \left[\sqrt{1 + \frac{2 \times 25 \times 36}{15 \times 1.13}} - 1 \right] = 6.33 \text{ cm.}$$

$$\sigma_b = \frac{2 \times 20312}{25 \times 6.33 \times 33.89} = 8 \text{ kg. per sq. cm.}$$

$$\sigma_s = \frac{20312}{1.13 \times 33.89} = 530 \text{ kg. per sq. cm.}$$



5. A reinforced-concrete column 30 × 30 cm., with four steel rods of total cross-sectional area 16 sq. cm., is concentrically loaded with 30,000 kg. To determine the stresses arising in the concrete and steel.

$$30000 = \sigma_b(30 \times 30 + 16 \times 16)$$

$$\sigma_b = \frac{30000}{1140} = 26.3 \text{ kg. per sq. cm.}$$

$$\sigma_s = 16 \times 26.3 = 395 \text{ kg. per sq. cm.}$$

6. The same column is to be calculated for flexure, its height being 4 metres.

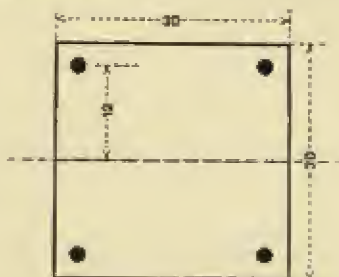


FIG. 9.

In Euler's formula

$$P = \frac{\pi^2 \cdot E \cdot J}{s \cdot l^2}$$

$$E = \frac{2100000}{15} = 140000$$

for concrete, and $s =$ the factor of safety = 10.

$$J = \frac{30^4}{12} + 16 \times 4 \times 4.00 \times 12^3 = 102060$$

$$\text{thus } P = \frac{10 \times 140000 \times 102060}{10 \times 160000} = 89903 \text{ kg.}$$

Since P is, as stated in the preceding example, only 30,000 kg., there is no danger of flexure in the concrete. In order that there should be no flexure in the steel:

$$\frac{\pi^2 \cdot E \cdot J}{5l^2} = P \cdot k$$

The stress k in the steel was found above to be 395 kg. per sq. cm. Since for round bars

$$F = \frac{\pi d^2}{4} \text{ and } J = \frac{\pi d^4}{64}$$

so that

$$\frac{J}{F} = \frac{d^2}{16}$$

the permissible length of rod subject to bending is

$$l = d \sqrt{\frac{10 \times 2100000}{80 \times 395}} = 25.8d$$

Therefore to avoid flexure in the steel rods, they must be tied together by transverse pieces at intervals of $25.8 \times 2.26 = 58 \text{ cm.}$

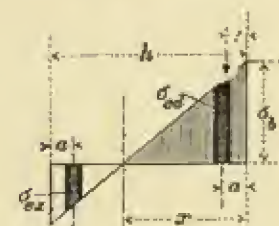


FIG. 10.

7. A reinforced concrete column of 25 × 25 cm. section with four steel rods of 2 cm. diameter is loaded eccentrically with 5000 kg. at a point 10 cm. from the centre. To determine the stresses arising in the concrete of the steel.

The two following relations are available for the solution of the problem:

(1) The sum of the external and internal forces must be zero. $\Sigma V = 0$.

(2) The sum of the statical moments of the forces acting on a section must be zero. $\Sigma \text{Mom.} = 0$.

There is the further condition that the stresses are proportional to the distances from the neutral axis multiplied by the modulus of elasticity, thus

$$\sigma_b : \sigma_{st} = x : n (x - a)$$

$$\sigma_b : \sigma_{st} = x : n (h - a - x)$$

From condition (1) it follows that

$$(a) \quad P = \frac{bx}{2} \sigma_b + n f_c \sigma_b \left(\frac{x-a}{x} - \frac{h-a-x}{x} \right) \\ = \sigma_b \left[\frac{bx}{2} + \frac{n f_c}{x} (2x-h) \right]$$

$$(b) \quad P(x-a) = \sigma_b \frac{x^2 h}{3} + n f_c \sigma_b \left[\frac{(x-a)^2}{x} + \frac{(h-a-x)^2}{x} \right] \\ = \sigma_b \left[\frac{bx^2}{3} + \frac{n f_c}{x} (2x^2 - 2hx + 2a^2 - h^2 - 2ah) \right]$$

Writing the two values of σ_b obtained from these two equations as equal, we have

$$\frac{b}{6n f_c} x^3 - \frac{b \cdot e}{2n f_c} x^2 - (2e-h)x = 2a^2 + h^2 - (3a+e)h$$

or, inserting the values $b = 25$; $n = 15$; $f_c = 6 \cdot 28$; $e = 2 \cdot 5$; $h = 25$; $a = 3$:

$$\frac{25}{6 \times 15 \times 6 \cdot 28} x^3 - \frac{25 \times 2 \cdot 5}{2 \times 15 \times 6 \cdot 28} x^2 + 20 \cdot x \\ = 2 \times 3^2 + 25^2 - 8 \cdot 5 \times 25 \\ x^3 - 7 \cdot 5 x^2 + 452 \cdot 16 x = 9734$$

The solution is best obtained by trial, which gives with sufficient accuracy: $x = 16 \cdot 3$ cm.

Then, by means of Equation (a):

$$5000 = \sigma_b \left(\frac{25 \times 16 \cdot 3}{2} + \frac{15 \times 6 \cdot 28}{16 \cdot 3} \times 7 \cdot 0 \right) \\ \sigma_b = 20 \cdot 2 \text{ kg. per sq. cm.}$$

$$\text{Then } \sigma_{ed} = \frac{15 \times 13 \cdot 3 \times 20 \cdot 2}{16 \cdot 3} \times 249 \text{ kg. per sq. cm.}$$

$$\sigma_{ed} = 249 \frac{5 \cdot 7}{13 \cdot 3} = 107 \text{ kg. per sq. cm.}$$

Berlin: 16th April 1904.



9, CONDIT STREET, LONDON, W., 25th Nov. 1905.

CHRONICLE.

Seventh International Congress of Architects 1906.

The following additions have been made to the list of Hon. Vice-Presidents of the Congress since the last publication:—

His Grace the Duke of Northumberland.

His Grace the Duke of Argyll.

The Right Hon. the Earl of Wemyss and March.

The Right Hon. the Lord Mayor of London.

The Executive Committee have the pleasure to announce that the Lord Mayor has very kindly signified his intention of entertaining the Congress (to the extent of 1,000 invitations) at a Conversation at the Mansion House on the evening of Tuesday, 17th July 1906.

Foundations of the Campanile of St. Mark's, Venice.

Mr. Horatio F. Brown, in a communication to *The Times* of the 16th inst., gives an interesting account of the works for the foundations of the new Campanile, which are now rapidly approaching completion. It is expected that the shaft will be begun next January, and, as the foundation works will be hidden from view when the pavement of the Piazza is replaced, the details given by Mr. Brown will serve as a useful record of what has been done. Mr. Brown, prefacing his description with some interesting notes as to the character of the subsoil upon which these foundations rest, and also as to the construction of the old foundations themselves, says:—

The whole city of Venice is carried on a thick cushion, or bed, of compact clay, into which the foundation piles are driven. This cushion rests in its turn on a deep stratum of watery sand. It is essential, in building, that the clay stratum should not be pierced, otherwise a geyser of water and sand is at once thrown up, and the pile loses its carrying power. This clay bed varies in thickness from about 18 feet to 24 feet in different parts of the town; it also varies in consistency—at the island of "Dorsò duro," or "Hard Back," it is, as the name implies, very firm; so, too, at the point where the Campanile stood. Borings in the clay stratum have disclosed the fact that it is not homogeneous throughout; you come across layers of peat, or pockets of sand and mud—during the works on the foundations no water was tapped—and, as we shall

presently see, the existence of these flaws formed one of the difficulties in making the new foundations.

The old foundations consisted (1) of piles driven into the clay. These piles, at the single point where they were examined by Com. Boni, were found to be of white poplar, in very good preservation, and presenting a closely twisted fibre; but no doubt other woods were used, and there is no positive evidence as to the state of most of the piles. (2) On the top of the piles came a platform composed of two layers of oak beams, the lower layer running east and west, the upper layer crossing it from north to south. (3) On this platform were laid the foundations, properly so called: they consisted of seven courses of stone of various kinds and sizes, held together in some places by shallow-biting clamps, and generally by mortar, which on the surface and for some depth, especially below the sea level, had lost its cohesive power. (4) Above the foundations came the base of five courses of stone, set in stepwise. The height of the foundations from the platform to the crown of the base was 16 feet. When the weight of the tower was removed by its fall, the whole foundations rose up three centimetres ($1\frac{1}{8}$ inch), owing to the hydraulic upward thrust from the stratum of watery sand that underlies the clay. It was also found that a settlement of six inches had taken place at the north-east angle of the tower.

After the fall of the Campanile on July 14, 1902, and when it had been decided to rebuild it *dove era e come era*, the question arose as to what should be done with the original foundations. Though in no way responsible for the collapse of the tower, and not exactly in bad condition, they still presented some defects, and, above all, they were too narrow for so imposing a superstructure. As a matter of fact, the area of the foundations extended only four feet beyond the spring of the shaft. Indeed, the old foundations were never intended to carry a tower of such a height as the Campanile. It seems pretty clear from their relation to the remains of walls laid bare by the present works that the foundations were those, not of a Campanile, but of one of the defence towers that formed part of the fortifications of the Piazza. No modern architect would venture to go upon so restricted a base, even had its condition been quite satisfactory. The idea of building on the foundations as they were having been abandoned, the question arose whether they should be swept away to make room for entirely new work, or whether they should be preserved and enlarged so as to form the nucleus of the new foundations. Around this point a warm polemic was carried on. Certain authorities advanced arguments in favour of clearing away the old foundations. . . . On the other hand, a group of architects argued that, strictly speaking, what had carried the tower once should be able to carry it again; the old foundations were not responsible for the fall, and had suffered no damage from the collapse; it would therefore be amply sufficient to enlarge these foundations and to distribute the pressure over a wider area; there was, moreover, considerable danger in meddling with the foundation area in such a way as to disintegrate the clay. In support of this view came all the sentiment of the city. The decision was taken in this sense and was rendered irrevocable by the ceremony of laying the foundation-stone of the new Campanile in the centre of the old foundations, a ceremony performed with all pomp on April 25, 1903, by the Count of Turin, representing the King, by Pope Pius X., then Patriarch of Venice, and a host of international, national, and civic notables. But, as a matter of fact, the work now approaching completion is a compromise between the two conflicting views—a compromise imposed by the necessities of the case.

The question having been settled in favour of preserving and enlarging the old foundations, it was resolved, in order to secure homogeneity of construction, to proceed by the old method of piles, platform, foundations, and base. A ditch—about 15 feet deep—that is, down to the level of the

pile-heads—was dug all round the old foundations to the width of about 12 feet, and carefully bratticed. Into the area thus laid bare they proceeded to drive 3,076 piles of larch-wood from Cadore, fresh cut so as to ensure the presence of abundant resin. The average diameter of the piles is $8\frac{1}{2}$ inches. Larch was preferred to oak, partly because experience has shown its admirable power of resisting decomposition when buried in the clay of the lagoon bed, partly because larch piles are straight; whereas oak is often bent and twisted, and would therefore have left frequent interstices. The piles are, on an average, 13 feet long. They were driven home to almost absolute resistance, that is to say, till they yielded only one millimetre to each blow from a weight of 570 lb. raised 4 feet 6 inches. They are calculated to have a carrying power of 30 tons each, giving a total carrying power of 90,000 tons about; the weight of the tower they are to support being estimated, allowing for hollow space, at 20,000 tons. At the angles the piles are in contact with each other; elsewhere they average twelve to the square metre; the total enlargement of the foundation area amounting to 240 square metres. While the work of driving the piles was in progress a difficulty manifested itself at the weak north-east angle—the angle that showed a settlement of 6 inches—the piles ran into a pocket of sand, and this sandy stratum was found to extend along the northern face of the foundations up to the north-west angle. The difficulty was overcome by driving thinner and rather longer piles in perfect contact with each other, until they reached the lower clay bed of the pocket. The settlement of the north-east angle was rectified by leaving the piles 8 inches higher at this point. The driving of these 3,076 piles was a slow process. It was carried on by the primitive method of hand-rope and pulley and weight; 11 ropes, or *campanelle*, and 11 hands to each pile-driver. Day after day all through the summer, from behind the palisade that hid the works, came the long, monotonous drone of the foreman giving the time to his hands in one of those all but immemorial chants to which the foundation piles of Venice have always been driven home. . . .

At length on October 8, 1904, the initial step of pile-driving was completed; and having now reached the level of the old platform the question of bonding the new work into the old came up for consideration. The new platform had to be superimposed upon the old if it was to catch and distribute the pressure of the tower. This led to the first attack on the old foundations. They were cut into to the depth of 8 feet all round and the new platform in its upper layer has been laid on the top of the old; a union which is neither complete nor quite satisfactory. The new platform, like the old, is made of two layers of oak beams, fresh cut in the forest of Montello. The lower layer runs parallel to the sides of the foundations, the upper is laid across, but at each angle there is a third layer, placed in the form of a fan of seven sticks, an ingenious device by which the pressure at the angles is distributed over a wide area. The layers are fastened together by wooden pins of that hard material dog-wood (*Corniola cornus*) and the interstices filled in with cement and chips of the porous Monfalcone stone.

The question of bonding the platform has virtually decided the fate of the old foundations, for the incision of 8 feet all round means $19\frac{1}{2}$ feet of new foundations in every direction, and leaves only 200 cubic metres of the old foundations as a mere nucleus in the centre of the new tower.

On the top of the new platform come the new foundations, formed of massive blocks of Istrian stone, cut in parallelepipeds and carefully cemented together. They are in 11 courses, stepped in from the external limit of the new foundations. Istrian stone was selected, rather than Euganean, on account of its compacter grain, which resembles that of marble. These blocks are bonded into

the old foundations to the depth of 6 feet 8 inches, the largest blocks being 9 feet 9 inches in length and 4 feet 7 inches in width; so that, as a matter of fact, the new Campanile will rest almost entirely on new foundations and a new platform, while its weight will be borne partly by new and partly by old piles. The method adopted for conveying these great blocks was of the most primitive kind; the method used, no doubt, by the builders of the original foundations: they were slowly and laboriously hauled by hand, with wooden rollers and ropes, up the length of the Piazzetta from the mole where the barges were moored.

But whatever the method the whole work looks massive and imposing, sufficient even to exaggeration. The cost down to the close of 1904 has been £4,623, so that when the foundations are finished the total expense will probably fall well within the £8,000 estimated for their construction.

Mr. William Glover's Benefactions.

Mention was made in the last number of the JOURNAL of Mr. Wm. Glover's gift of £500 to the Corporation of Newcastle to celebrate the visit of the Institute to Newcastle-on-Tyne, the money to be held in trust and the interest applied to the purchase of works of art by local artists for the Laing Art Gallery. In sending the money to the Mayor of Newcastle Mr. Glover added another £800—making £800 in all—for the same object, "in memory," to quote his letter, "of my valued and esteemed clients in the three counties." By "local artists" are to be understood those of Newcastle, Northumberland, and Durham.

London Building Acts 1894-1905.

Mr. Edward Stanford will publish early in December a revised and enlarged edition of Mr. Bernard Dicksee's *London Building Acts 1894-1905*, which will contain the full text of the various Acts, including the Amendment Act of the present year. The notes and references to the decisions of the High Court have been considerably extended and brought up to the present date.

ALLIED SOCIETIES.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

The opening General Meeting was held at the Queen's Hotel, Leeds, on Thursday, 16th November, when an Address, of which the following are extracts, was delivered by the President, Mr. G. Bertram Bulmer [F].

Colleagues, Ladies, and Gentlemen,—The wheel of time has made one more revolution, and I find myself addressing you again as President of this Society. My long connection with it—extending to nearly thirty years—will be evidence to you that I have had always a deep interest in your welfare, and can assure you that I shall continue to take an interest in your prosperity and progress,

although the time has come when younger and more active spirits will have to take the helm and steer your barque upon its appointed course. I thank the Members of Council for their support in the past year, and I am looking forward to the assistance of the Vice-Presidents in holding the meetings of the coming session. During the year we have lost the services of Mr. R. P. Oglesby. You all know the usefulness of a Society like ours is largely affected by the ability and vigour which its Hon. Secretary brings to his task, and in losing Mr. Oglesby we have lost an official whose enthusiasm and devotion to his work attained a high pitch, and we offer the thanks of this Society to him and our best wishes for success in his new career. His duties have now passed into the hands of Mr. A. E. Kirk, and we welcome him as one who will vie with his predecessor in keeping this Society in the front rank of the R.I.B.A.'s Allied Societies. "We have got the men." I wish I could finish the quotation and say "we have got the money, too." The question of finance is becoming a very important one, as our treasury is much depleted by the undertakings of the last three years, and there is in front of us a large amount of work to do, and consequent expense if we continue to maintain our support to the Architects' Enrolment Bill and the Board of Education. Our members must consider the possibilities of the situation and endeavour to strengthen our financial position by every means in their power. "Heaven helps those who help themselves," and we must not rely on the purse of an Honorary Treasurer to meet our deficiencies. By observing strict economy during the coming year I have no doubt we shall have a balance on the right side; but we should much prefer to have an ample reserve to meet exceptional calls. I draw your attention to this matter in the hope that some special effort may be made, in which I shall be only too glad to bear my part.

May I now say a few words to our practising members? I should like to remind them that the alliance of this Society with the Royal Institute of British Architects gives them a direct and important influence on the life of our central institution, and having as many as seventeen Allied Societies their united opinion must carry weight with the Institute Council. I would therefore ask you to do all in your power to strengthen our hands. There are many who continue to give us the support of their names and subscriptions, but never take any part in our deliberations, and whose advice would be very valuable to us. Also I should like to see the Society strengthened by the addition of more members throughout the county, so that even isolated practitioners through us would obtain a guiding hand in the control of our professional interests—a matter at the present juncture of paramount importance.

Our list of honorary members might also be enlarged with advantage. The hope of the archi-

ture of the future is largely dependent on the interest the public take in it, and if we can enlist the support of men of light and leading outside our profession—men who are largely concerned in promoting civic and private undertakings—I feel sure that nothing but good would result. To those who have supported us, in some cases for a long period, we owe our thanks.

I am glad to say that the general business of the Society pursues the even tenor of its way. Our library, safely housed in the premises of the Leeds Free Lending Library, remains a useful adjunct of our institution. The classes, held in our own rooms and the premises of the Leeds Institute, continue to do good work, and we contemplate some extensions in this direction to meet the requirements of day pupils, and the curriculum may need some further adjustment to fall in line as far as possible with the views of the R.I.B.A. Board of Education. Our lecture list is an excellent one, and we hope that the goodness of the lecturers in coming such long distances to aid and assist us will be repaid by an adequate attendance of all classes of members and their friends, who can be introduced, by permission, to the sessional lectures.

I have touched lightly on various matters pertaining to our Society and its work. I propose now to deal with some questions which affect us in our relationship with the R.I.B.A. The most important of these is the movement in favour of registration, and I will briefly outline the steps which have been taken in that direction.

In January 1904 the Institute Council, which had been elected to support the movement, appointed a Registration Committee consisting of its own members and representatives of the Allied Societies. They appointed a Sub-Committee to formulate a scheme for the compulsory training, education, examination, and statutory qualification of architects. This Committee considered that the only way to obtain the above objects was by means of Parliamentary powers to prevent any person using the title "architect" who had not passed qualifying examinations such as are now required, or will be at the end of 1906, to obtain admission to the Institute. The Committee met monthly and held morning and afternoon sittings, with the result that a Bill entitled "A Bill to secure the Enrolment of Architects" was drafted, with the aid of the Institute solicitors and the eminent counsel, Mr. Cripps, K.C., and Mr. Clode. At a Council Meeting held in June 1905 this Bill was adopted and ordered to be circulated, along with the Committee's Report, to all members of the Institute, and the complete text of the Bill will be found in the Institute JOURNAL (No. 17) for 22nd July 1905, to which I refer my hearers. The new Council, recently elected, does not contain the personnel which was so active in promoting the Bill, and it remains to be seen what steps will be taken to utilise the weapon forged with such labour and assiduity by the Registration Sub-Committee.

The matter will not be allowed to rest, and we hope to see the Bill introduced into Parliament, supported by the Institute, its Allied Societies, and the profession generally. The feeling in favour of the Bill is, I believe, rapidly extending, and if the Institute is to represent the profession it must sooner or later carry this movement to a successful issue. The President and Council who perform this good work will earn the gratitude of the public and the profession, and will lay the foundations of the Institute for all time.

Another question in which our interests are closely interwoven with the Institute is the Education question, and it is a matter of some difficulty. Many of the provincial Societies are each in their own way grappling with it; but it has been thought that the various systems should be co-ordinated, and a uniform system of education established. With this object in view a Board of Architectural Education was constituted by the Institute Council in May 1904, consisting of certain members of the Institute, two representatives of the Architectural Association, and a body of advisory members representing the Universities and other educational bodies, and including the Architectural Schools of Liverpool, Manchester, Leeds, Birmingham, Edinburgh, Dublin, and Cardiff.

The Board has drawn up a curriculum, which it recommends for general adoption: viz. a four years' course, of which the first half shall be spent in the schools and the remaining two in an architect's office, school training to be continued through the second term—the Board to maintain a supervision over the pupils during the whole period. An excellent system, but I cannot at present see how it is to be carried into execution. The equipment of schools or studios would be an expensive matter, and even the large towns would have to look to the Institute for financial assistance to develop their existing schools on these lines, and at the present time many pupils go into an architect's office who could not afford to leave home and reside in the great centres and pay heavy school fees, in addition to the premiums they pay to enter an architect's office. The whole subject bristles with difficulties, so far, at any rate, as the provinces are concerned, and must receive the earnest consideration of the provincial Societies if the scheme is to be successfully carried into effect.

There is yet another item to which I should like to draw your attention, "The Conduct of Competitions." Nearly every architect has experience of the worry and unnecessary expense and trouble attending these transactions, and much has been done of late years to mitigate the evils. Opinion seems yet to be considerably divided on many points, and, although the employment of a professional Assessor is becoming daily more frequent, to the advantage of the public and the profession, the mode of selecting Assessors and the method and rules by which they regulate their action have not

given entire satisfaction, and call for amendment. To my mind we should endeavour to minimise the evils by declining competitions unless the commission to be earned is of a certain amount, and Assessors should do all in their power to reduce the cost of preparing designs by adopting a small scale, and permitting work drawn in pencil, and limiting the number of drawings required to a minimum.

It is a great step forward to find that promoters are so willing to take the advice of the Institute in organising their competitions, and with such an opportunity the Council should spare no effort to see that the interests of architects are thoroughly safeguarded. To the Council of the Institute we must look as the champion of this cause.

Now let me turn from the details which so intimately concern us and give some thought to the amenities of the city in which we live. As artists we desire to see it comely in form and colour; as citizens to find it sweet and sanitary, free from all unsightly embellishments, provided with open spaces for light and air, and wide streets for the circulation of traffic. For some years these principles have been recognised by our authorities, and praiseworthy effort made in all those directions. Why then do we nullify our efforts by permitting so much that is opposed to them? Perhaps the greatest destroyer of our architectural efforts is the advertising fiend, whose emissaries are over-running every corner of the city and suburbs. No place is safe from their encroachments. The main streets of the city, the highways which lead to and from it, the country lane—once sacred to rural beauty—are alike desecrated by the advertisement hoarding and the glaring lettering of the self-seeking advertiser. This growing nuisance must be controlled, and town and country authorities have more power to deal with transgressors. Owners of property also could assist by prohibiting their tenants from defacing the buildings with sign-boards and prominent lettering, confining all privileges in this direction within strict limits. Half a century has passed away since the French imposed restrictions. We have a national Society dealing with the question, which was formed in 1898, and in the spring of this year the Advertisement Regulation Bill passed its second reading in the House of Lords; but the evil is so widespread that it will be necessary to form an overwhelming public opinion which will perceive the folly of spending money and effort in beautifying our cities and buildings, and mutilating the result with flaming advertisements. Yet another feature will have to be eliminated if we intend to promote the æsthetic treatment of our great thoroughfares—the standards and overhead wires in connection with our tramway system. It is to be desired that engineering skill will devise a method to bring this about. Another means of obtaining a clean and cheerful aspect for our streets is the use of cleansable material, such as hard bricks and

terra-cotta. We have two samples in this city which periodically renew their pristine beauty, and will continue to do so for ages to come by the application of water supplied by a hose-pipe. Unfortunately terra-cotta lends itself so readily to the repetition of ornament that there is danger of making our designs too elaborate, and the multiplication of ornamental features makes the cleansing process more difficult. Therefore we should aim at plain wall-surfaces, with high-class decoration sparingly used.

At the risk of wearying you I will draw your attention to one more subject in this connection, and not by any means the least. Prevention, it is said, is better than cure, and to reduce the dirt and smoke created in our vast city is of paramount importance, and does not receive the consideration it deserves. In private dwellings much may be done to reduce the smoke nuisance by using fireplaces of the most approved design, and in business premises by circulating hot water for heating purposes from a boiler and furnace to which smoke-consuming appliances can be attached. The large manufacturing concerns are the great producers of smoke, and much is done doubtless to keep them within bounds; but I submit there is a field here for further effort on the part of designers of smoke-consuming apparatus, and the authorities whose duty it is to see them applied.

I thank you, gentlemen, for the attention you have given to my desultory remarks, and will conclude my address by supporting the appeal made by Mr. Belcher for farther help for the Architects' Benevolent Society. We have arranged to give an annual subscription which I should like to see increased, and Mr. Sydney D. Kitson has kindly agreed to act as local Hon. Secretary. I trust that the Leeds and Yorkshire Architectural Society will earn distinction by doing all in its power to support this institution in its good work of aiding the sick and unfortunate members of our profession.

MINUTES. II.

At the Second General Meeting (Ordinary) of the Session 1905-06, held Monday, 20th November 1905, at 8 p.m.—Present, Mr. John Belcher, A.R.A., *President*, in the Chair, 55 Fellows (including 14 members of the Council), 62 Associates (including 3 members of the Council), 2 Hon. Associates, and several visitors: the Minutes of the Meeting held 6th November 1905 (p. 20) were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted and signed the respective Registers: John Priestley Briggs and Brook Taylor Kitchen, *Fellows*; Kenneth Duncan Stewart Robinson and Charles Lovett Gill, *Associates*.

A Paper on SOME AMERICAN METHODS OF ERECTING BUILDINGS, by Mr. R. A. Donell, having been read by the author and discussed, a vote of thanks was passed to him by acclamation.

The proceedings then closed, and the meeting separated at 10 p.m.



Panel on Temple at Naxos.

EXCELLENCE IN ARCHITECTURE.

ROYAL ACADEMY LECTURES, 1906.

By Professor AITCHISON, R.A.,

PAST PRESIDENT R.I.B.A., ROYAL GOLD MEDALLIST.

THESE lectures are mainly addressed to the students of architecture who have not only to get their living by the art, but who hope to acquire at least reputation, if not fame. But I also want all my audience to take deep interest in architecture and consider what it does for a nation, as well as to cultivate such a knowledge of the art as may make them more or less judges of the buildings they see. Nothing tends so much to damp the ardour of those who practise a fine art as the utter indifference to which it is frequently condemned, particularly in the case of our own art, and that crass ignorance that supposes all the elaborate arrangements and beauty of a finished building to be self-made. If there were none who could be impressed by the other fine arts, who would take the trouble to study them? If poetry did not cause deep emotion and delight, what poet would take the endless trouble of perfecting his effusions?

It is evident that at certain epochs the desire for certain capabilities is on the top of Fortune's wheel, while at other times the desire for the same capabilities is in the mud. I think it is clear that in the fifteenth century the desire of most people in Italy was for excellence in the visual fine arts, and in consequence many of the youths born in that century ardently desired to be painters, sculptors, and architects. At other epochs, though these fine arts may have been desired, the passion was for something else, as it is now for mechanical ingenuity in England. About the sixth century B.C., when Pisistratus was King of Athens, he must have felt that there was a great longing for poetry among the people he ruled over, for he had the scattered remains of Homer's poetry collected, and made up by the best poets he could get.

After the victory of the Greeks over the Persians at Marathon, Æschylus, who fought there, wrote his sublime plays. Shelley's "Prometheus Unbound" will give a better idea of them than any prose translation. After the crushing defeat of the Persians at the naval

battle of Salamis and at the land battle of Plataea, other poets sprang up, and architecture, sculpture, and painting made great strides, as exhibited at the building of the Parthenon by Ictinus, the Propylea by Mnesicles, the colossal statue of Athene in ivory and gold by Pheidias, and the marble reliefs on the Parthenon by other sculptors. The only painting that could have come down to us is on vases. Sculpture so progressed that it is hardly possible to believe that the old ionic figures found in the ruins of the temples destroyed by the Persians could have been carved in the same century that produced the sublime sculpture of Pheidias and his compeers. The great poets who sprang up about this time were Sophocles and Euripides, the tragic poets, and the comic poet Aristophanes, whose sarcasm is well given by Hookham Frere.

Great architecture has this advantage, that although it is perhaps not so lasting as great poetry, it is more striking on account of its size and the labour obviously necessary to



TEMPLE OF JUPITER, ATHENS.

From a Water-colour Drawing by Sir Robert Smirke, in the Institute Collection.

produce the form. The architecture of Greece is the most perfect that man has yet invented. The shape into which the marble was converted was the most perfect that man could imagine, for the atmosphere and sunlight of Greece, the study of light, shade, and shadow, in the clear air of Greece, with its blinding sunshine, is quite marvellous. When I was in Greece, not twenty years ago, some of the minute architectural mouldings of the Propylea looked as perfect as if they had been worked yesterday, though the month was November and the hour between eight and nine in the morning. The Grecian Doric capital produced the most perfect piece of light, shade, and shadow that has ever been invented.

Viollet-Le-Duc says moulding is architecture; be that as it may, it is obviously absurd to use mouldings that are generally invisible. In England for months you cannot distinguish the columns of a portico from the spaces between them. The Grecian Doric capital in England is mostly the least effective of any architectural invention, as the Greek mouldings lose all their perfection in our sunless and misty climate. I greatly fear, too, that the

English people of our time take so little interest in architecture that no architect takes the trouble to invent mouldings* that are effective in our climate. We do not even feel, as the Romans did, how grand buildings impressed strangers as well as their own countrymen.

I will give you from Ammianus Marcellinus the account of the Emperor Constantius' visit to Rome, and of the buildings that most interested him.

"Admiring the temple of the Tarpeian Jupiter, which is as much superior to other temples as divine things are superior to those of men; and the baths of the size of provinces; and the vast mass of the amphitheatre, so solidly erected of Tibertine stone, to the top of which human vision can scarcely reach, and the Pantheon with its vast extent, its imposing height, and the solid magnificence of its arches, and the lofty niches rising one above another like stairs, adorned with the images of former emperors; and the temple of the city, and the forum of peace, and the theatre of Pompey, and the Odeum, and the racecourse, and the other ornaments of the Eternal City.

"But when he came to the forum of Trajan, the most exquisite structure, in my opinion, under the canopy of heaven, and admired even by the deities themselves, he stood transfixed with wonder, casting his mind over the gigantic proportions of the place, beyond the power of mortal to describe, and beyond the reasonable desire of mortals to rival. Therefore giving up all hopes of attempting anything of this kind, he contented himself with saying that he should wish to imitate, and could imitate, the horse of Trajan, which stands by itself in the middle of the hall, bearing the emperor himself on his back" (Amm. Marcellinus, bk. xv., ch. 5, A.D. 355).

In the thirteenth century Florence produced Dante, one of the great poets of the world, and shortly after his death in 1321 immense strides were made in the study of the Greek language and literature. The fourteenth century was the main educational time of the Italians, and in the fifteenth century all the fine arts flourished; but though the Renaissance architects were very clever men, they never took the elaborate pains that the Greeks took to perfect their mouldings, so that they might excite the perennial admiration of mankind. They were satisfied with the dull mediocrity of the Roman mouldings.

Ernest Renan speaks with rapture of the beauty and perfection of Greek architecture,



TEMPLE OF JUPITER STATOR, ROME.

From Cressy & Taylor's *Architectural Antiquities of Rome*.



From Delacroix & Lechat's *Epitourne*.

and says that he had read of perfection, but never saw it till he went to Athens, and he makes fun of the attempts of the Romans and medievals to compare themselves with the Greeks.

The object is to show the students how perfection may be attained, for, as Aristotle says in his "Nicomachean Ethics," we do not want to study virtue to know what it is, but to become virtuous ourselves. Genius, with untiring industry and study, will perfect most things.

We want to have a clear idea first of what we like; I mean the proper sequence of shapes, whether simple or complex. The material we have to work in is mostly moderately fine-grained limestone; marble will not stand our climate. We must also have in mind at what season we want our mouldings to show, i.e. whether in clear weather and sunlight, or in slight mist, for dense fogs and dense mists render everything invisible. The students have probably noticed that at the culminating point of Attic architecture, mouldings were scarcely used from the top of the capital to the crowning ovolo of the pediment; at the Parthenon there is only one hawk's-bill moulding and one minute bead; the only divergences from plain surfaces and their returns at right angles are the splayed soffits of the mutules, the only other splays being those of the sinkings of the triglyphs: all these simple forms of elaborate proportions were set off by the most perfect figure sculpture the world has yet seen. For inside work in England you may consider yourself in Greece with the brilliant light of electricity or incandescent gas instead of the sun.

Locke and Helvetius both believed that a child's mind when first born was like a sheet of white paper with nothing on it, and that it was merely accident that caused the mind to proceed in any particular direction; but man, like other animals, is born with certain instincts

as well as with certain capacities—I very much doubt if young wolves or lions could be brought up to eat grass and thrive on it.

As industry is so important a matter in every occupation, it has been the fashion of all teachers to pretend that it is mere industry that makes men distinguished, forgetting altogether the native capacity and inclination. I recollect when a child being given a story to read which told me how some village schoolmaster had got a bust of Sir Isaac Newton, and had written under it, "What man has done man can do," intimating that all the young clodhoppers who chose to be industrious might find out another law of the universe, if there be one, to compare with that of gravity, and make advances in mathematics to rival Newton's, although De Morgan said that when Newton published his *Principia* he did not believe there were more than three people in Europe that could understand it.

The Latin saw says, "*Poeta nascitur non fit*" (a poet is born, not made), which was no doubt the result of experience; but Ben Jonson added this line to it:

"For a good poet's made as well as born,"

and that is perfectly true of every inventive fine art. But most of those who have succeeded deny the gift of Nature, i.e. that of invention, being born in them, and attribute their excellence wholly to their own industry and perseverance. It is considered useful for young people to be taught untruths, though I have never seen the benefit of it; and certainly, for our own art, it is as well to try to get those who are blessed with the inventive faculty, instead of



CAPITAL OF ONE OF THE ANTE AT DIDYME.
From *Antiquities of Ionia*.

trying to teach invention to those who are born without it. It is not surprising that industry should have been so much insisted on, for nothing can be done without it; but it has been so turned from its original meaning that it has become a curse rather than a blessing. As a clever architect said, "so many mistake industry for talent." We must bear in mind that to an intelligent man the fact of his being born with a great mental gift is like the old saying of being born with a silver spoon in one's mouth. It is no credit to the man, while industry is a virtue. Nearly all great men have insisted that they were no cleverer than others, and had no particular gift. From the necessity of the case, industry must be a very common gift, and



THE ERECHTHEION AND PROPYLÆA TEMPLE.

can always be taught with the aid of a stick; so we should have had many Newtons, many Shakespeares and Miltons, many Turners and Reynoldses, many Raffaels and Michelangelos, if that genius that has made them foremost in the rolls of fame were to be had by common industry. I have noted down a few of the celebrities whose words or actions have pointed towards native tastes, but still it is no doubt true that many men born with artistic invention have never brought it to perfection from the want of industry. Pope says of himself,

"As yet a child nor yet a fool to fame,
I lisped in numbers, for the numbers came."

Blaise Pascal was by his father's orders kept ignorant of anything concerned with geometry, as the elder Pascal had devoted himself to geometry, and had not made that success in the world he anticipated. One day his father wanted Blaise, and, inquiring for him, heard

he was playing in the loft. The father went up, and found him trying to solve geometrical problems, and to the geometrical figures he had drawn he had given names of his own. Sir Joshua Reynolds, who was so certain about there being no natural tendency to anything in children, forgot his own sketch of the bookcase in his father's room on which his father had written "Done by Joshua out of pure idleness." I take it for granted that you have all read Sir Joshua's charming and celebrated lectures; it is in the sixth that he tries to show that excellence in painting arises purely from industry.

When young Michelangelo declared his intention of becoming an artist, his father gave him a sound beating, meaning him to become fitted for a *podestà* like himself, and told his brothers of Michelangelo's determination. Each of the uncles gave their nephew a severe beating, as well as verbal advice to fit himself to be a *podestà*; but Michelangelo was not to be moved; so they apprenticed him to the brothers Ghirlandajo, and shortly after Michelangelo had been articled he corrected some of his masters' drawing. I do not believe in Sir Joshua's prescription, that by studying the invention of others we learn to invent, unless we naturally are gifted with inventive powers. It is a gift, and not a contagious disease that can be caught by contact with a person or with his old clothes.

I think the attempt to turn an uninventive person into an inventive one is like the Indian story of turning a Mongol Emperor into a Brahmin. The Wezeer of this Mongol Emperor, a Brahmin, who was asked to get the Emperor made a Brahmin, said he would see what he could do, and after this conversation, whenever the Emperor looked out of his window, he saw some men washing, currycombing, and oiling a jackass, and at last he asked his Wezeer what it meant. The Wezeer said, "Your Highness, they are trying to turn the jackass into a horse." The Emperor said, "That is ridiculous, they are different animals," to which the Wezeer replied, "It is not more difficult to do that than to turn a Grand Mongol into a Brahmin."

I think the most important secret that Vitruvius has disclosed to us is that upon the design and symmetry of temples, in which he tells us the design of temples depends on symmetry, the rules of which architects should be most careful to observe. Symmetry arises from proportion, which the Greeks called *ἀναλογία*. Proportion is a due adjustment of the size of the different parts to each other and to the whole: on this proper adjustment symmetry depends. Hence no building can be said to be well designed which wants symmetry and proportion. In truth, they are as necessary to the beauty of a building as to that of a well-formed human figure.





HAGIA SOPHIA CONSTANTINOPLE.

SANTA SOPHIA, CONSTANTINOPLE, AND ST. MARK'S, VENICE.

By WM. BRINDLEY.

ON revisiting the Church of Santa Sophia, Constantinople, in May this year, I was pleased to find that visitors are again allowed to ascend into the Women's Gallery.

I was there on a very bright day, and on examining the frieze, the top band of the marble wall linings, which is executed in a very rare marble—rosso cipollino—and runs round the gallery, I observed that about one third of the marble has been at some date stolen, also a number of large panels in the same marble from the body of the church. This is now replaced with plaster, which

is painted in purple, reds, and whites, to represent the real marble, and they have further copied the opening-out of the slabs to complete the pattern; but they forgot to put in the vertical joints, so the sham is readily seen.

When we look from this church to St. Mark's, Venice, and San Vitale, Ravenna, we find out at once who stole the marble, and have to confess that it was the same Venetians that plundered the Church of the Apostles for other marbles, even taking away the "Sarcophagi," which they cut up for balustrading to the gallery in St. Mark's; and



ST. SERGIUS, CONSTANTINOPLE.

this rare rosso cipollino they used for the large panels in the north and south aisles of the nave and on the walls of the chapel in the north transept. The remainder was used again, frieze fashion, in San Vitale, Ravenna.

In Santa Sophia over this marble frieze is a band of comparatively modern plaster-moulded

filled and painted the matrix, from whence the marble had been abstracted. It is done with so little taste that in some places the reverse mould is actually used for variation as an enrichment.

The two large water vessels, globe-shaped, each out of a single block, some five feet in diameter, used for ablution, are said to be in alabaster.



ST. SERGIUS.

foliage about nine inches deep. I think that probably this replaces a white marble carved band, with large roll moulding hollow and perforated, similar to the one in the earlier Church of St. Sergius, or like the one in the aisles of the Church of Santa Sophia itself.

This present plaster enrichment must have been done by the Turks at the same time that they re-

After careful examination I am convinced that they are made out of the marble of the island of Marmora in the Sea of Marmora, the semi-translucency being caused by hand-rubbing in the act of ablution—the same effect as “elbow grease” to the marble church-door jambs of Italy.

The accumulation of thick carpets that used to cover up the pavement in the body of the church

have now been removed and replaced by carpets representing a series of prayer rugs, each of the same pattern, so every worshipper gets allotted the same space. The pavement is now seen to consist of a series of large thick slabs of Marmora marble fixed diagonally in rows, each slab measuring from ten to twelve feet long and about four feet wide. On the north side a wide band of verde antico is inserted, forming a square of similar dimensions to the one in the Women's Gallery, where the pavement is the same white slab treatment as below.

These quarries of Marmora are still in full work and produce all the monumental and building marble used in Constantinople. Hundreds of Turkish masons may be seen daily executing most excellent work, all by hand labour, some of which is very elaborate.

As beautiful as the interior of this church is in colour effect, I find that all the marble used came from but very few quarries. Practically the whole of the supporting monolith columns, except those in the Exedras, which are in Egyptian porphyry, are in Thessalian green (verde antico). The door jambs, step thresholds, and some of the wall panels are also verde antico, others being Carystian cipollino, the reds and red-veined being Synadic and Laconian, with some Oriental alabaster. All the whites, with few exceptions, are local, from the Sea of Marmora.

The historic Church of the Holy Apostles, which was the burial-place of the Emperors, would seem to have been pulled down by the Sultan Mohamed II. to make room for his own mosque. This church, like Santa Sophia and St. Sergius (Little Sophia), would no doubt be rich in coloured marbles, which have certainly not fared the same

fate as befell the Imperial tombs at the hands of the Venetians. The present mosque of Mohamed erected on the site contains in its courtyard arcading fourteen large monolith columns of Byzantine date, eight being verde antico and six Egyptian granite.

Another mosque on the summit of an adjoining hill, Sultan Bayazid, has in the courtyard arcade fourteen monolith columns about fifteen feet long, ten of which are in verde antico and four in Egyptian porphyry. These columns have annulets of bronze top and bottom, as in Santa Sophia. There is also used round the fountain in the centre of the court eight monoliths, about twelve feet high, six of which are in verde antico, one granite, and one Synadic. The pavement also contains plaques of Egyptian porphyry with broad bands of verde antico.

It seems not improbable that the whole of these thirty-six monolith shafts originally belonged to the Church of the Holy Apostles.

The great mosque of Suliman the Magnificent contains no fewer than eighteen monolith shafts of verde antico, and others of porphyry and Synada, and one circular plaque of Egyptian porphyry eleven feet in diameter. This plaque, with those of similar size in Rome, may have been part of one of the missing drums of the Column of Constantine slabbed up. The lesser discs and rectangular slabs may have come from the destroyed palace of Constantine.

The city wall alongside the Sea of Marmora is being rapidly destroyed. Here Byzantine monolith shafts, chiefly Proconesian, may be counted by hundreds, with carved caps and bases. Nothing better in Constantinople shows the awful destruction that has taken place since Byzantine times.



NOTES ON THE LONDON BUILDING ACTS (AMENDMENT) ACT 1905.*

By WILLIAM WOODWARD [F.].

Read before the Royal Institute of British Architects, Monday, 4th December 1905.

WE all know that during the last few years the London County Council have not been satisfied with the powers conferred upon them by the London Building Act 1894, and the other Acts, By-laws, and Regulations with which they have been armed, or with which they have armed themselves. Those of us, however, who have had dealings with the London County Council and other constituted authorities in London might have, not unreasonably perhaps, arrived at the conclusion that not only were there amply sufficient powers under the Acts &c. referred to to protect life and property in London, and to secure healthy occupation, but that if, say, at least half of those powers were wiped out, London architects, owners, and dwellers would be all the better for the operation.

It has been said to me, when I have complained, as I have, and as I shall continue to do to the end, of the enormous amount of unnecessary work thrown upon architects in the endeavour to meet the requirements of public bodies, particularly under the Amendment Acts now under notice, "Well, what have you to grumble at? There will be plenty of work put in your way." But I am quite certain that I only echo the sentiments of the architectural profession when I say that we do not desire to run up heavy bills against our clients for work which we know, as practical men, to be quite unnecessary, regarded either from the point of view of public protection or of artistic and scientific propriety.

It is a curious fact that the latest exhibition of greed on the part of the London County Council to bring additional matter within the purview of their motherly, I had almost said "grandmotherly," attentions has its origin in the lamentable inefficiency of the very body now clamouring for further powers. It was the fire in Queen Victoria Street in June 1902, where the lives of some poor girls were lost, largely owing to the inefficiency of the London County Council Fire Brigade, which led to such a public outcry, that, in order to save its own face, Amendment Acts for the protection of the public from the risk of fire have been from time to time brought forward by the London County Council, now culminating in this Amendment Act of 1905, which is really an Act to afford means of escape from buildings in case of fire. And when we remember the population of London, and how very few persons in proportion to that

population lose their lives from fire, we may express surprise why so tremendous an Act should have been passed for so small a purpose. It will be readily admitted by this Meeting that much improvement in the Fire Brigade of the London County Council has been made since 1902, and that what has been done in that direction has rendered only the more unnecessary this new Act.

In opening what I hope will be an interesting discussion this evening I shall not deal with the sections of the Act which do not, in my opinion, directly concern architects at the moment, but confine myself to brief comment upon certain sections, leaving to the discussion the bringing forward of fresh ideas.

Fortunately, the present Amendment Act has had some of its sting taken out by the fact that many of its provisions are referable to the Tribunal of Appeal as at present constituted under the Act of 1894. It will be remembered that in the previous Amendment Act, which was withdrawn, the existing Tribunal of Appeal was attacked in rather bad fashion, and a new Tribunal was attempted to be created, which would have been to all intents and purposes a creature of the London County Council. We may all, I think, safely rely upon the Tribunal to uphold the reasonable provisions of the new Act, and to clip the wings of arbitrary and unnecessary interference.

On 1st January 1906 we shall be under what is termed "The London Building Acts, 1894 to 1905," and on that day "London" (the new Act goes no further) will be subject to their several provisions. The interpretation of the word "owner" and the word "rackrent" will give rise, I think, to some nice arguments hereafter which will bring grist to the mills of the lawyers, as all Acts of Parliament seem designed to do. The interpretation of the word "plans" is given as "plans, sections, and elevations." Why, after all the litigation and trouble we have had over the word "plans" in the Act of 1894, the new Act did not use the term "drawings" instead of "plans" I cannot guess, and as, in sub-section (2) of section 6 (the interpretation section), it is laid down that words and expressions used in the new Act bear the meanings assigned to them by the Act of 1894,

* These notes were prepared by the Author at the request of the President a few days prior to the meeting.

&c., which we all know have puzzled Judges as well as architects, we cannot be said to have gone very far ahead in that direction.

As regards the buildings affected on 1st January 1906, Section 7 applies to certain new buildings, and there must be deposited at the County Hall the plans and particulars thereof, together with a copy (which may be a sun-print or photograph) of such plans showing "the means of escape proposed to be provided in connection with such building." The Council is confined to one month after the deposit of the plans, enlarged to two months during the Vacation between 1st August and 14th September, to refuse to approve these plans, or to state conditions on which they will approve; but they are to give all their reasons for their refusal or conditions of approval, and if no such notice is given to the applicant within such period, approval by the Council is to be deemed to have been given.

Sub-section (2) of Section 7 provides for a certificate by the Council, before the upper story of a high building is occupied, that proper means of escape have been provided, and fourteen days are given to the Council to notify its refusal and the grounds thereof, which, if not done, the certificate shall be deemed to have been duly issued.

Sub-section (3) of Section 7 sets forth in a most exhaustive manner the sort of alterations or additions made to a building which will render the certificate issued by the Council void and of none effect, so that practically we shall always have the Council with us.

Section 9 begins to operate on 1st January 1907, and takes within its purview certain existing buildings. This purview is indeed an extended one, for, with the exception of a dwelling-house occupied as such by not more than one family, it includes a very large number of the most important buildings in London. It takes in paragraph (a) of sub-section (1) a "high building" or (b) "a building in which sleeping accommodation is provided for more than twenty persons, or which is occupied by more than twenty persons, or in which more than twenty persons are employed." A "high building" means any building any story whereof is an "upper story," and "upper story" means "any story the level of the surface of the floor whereof is at a greater height than 50 feet above the level of the footway." It should be carefully noted that what was deemed a safe height in the Act of 1894—viz. 60 feet—has been now reduced to 50 feet, and this will bring in a very large addition to the number of existing buildings to be brought under the Council's domination. The *modus operandi* under this very important section appears to be as follows:—"The Council is to form an opinion as to whether or not these certain existing buildings are not provided with a proper and sufficient means of escape therefrom in case of fire," and it must be admitted

that this power to form an opinion is a very wide one indeed. It of course gives power to enter buildings, to take plans, elevations, and sections of them, and then within the quiet solitude of Spring Gardens they will be subject to that critical analysis with which some of us are familiar. And if the Council cannot bring within its notion of what is not "proper and sufficient" pretty well every building in London (with the exception, of course, of certain "exempted buildings" under the Act) over 50 feet in height, or containing sleeping accommodation for more than twenty persons, then I am unaware of those attributes of the Council which in many instances have brought them into somewhat public prominence.

When the Council have arrived at the opinion required "they may at any time serve on the owner of such building a notice requiring him to provide such means of escape as can be reasonably required under the circumstances of the case." I look forward with much interest to the glorious fights there will be over the interpretation of the word "reasonable"; and, curiously enough, no guidance as to the word "reasonable" is afforded us under the interpretation clauses of the Act. The notice referred to is to "specify in detail the requirements of the Council." We have no ground for calling into question the ability of the Council to detail this notice, and the owner of the building, the subject of the notice, is to "do all such works and things as may be necessary to comply with the requirements of the Council under this section." It is true the owner may within twenty-one days of the notice submit to the Council "alternative proposals," and if the Council accept these he need not go on with the others.

Sub-section (4) of Section 9 does not authorise the Council to require any means of escape from any story of certain buildings other than the "upper story." In other words it would appear to be lawful to be burnt to death at a height of 40 feet, but not at a height of 50 feet.

Section 10 sub-section (1) refers to projecting shops. The "projection" is, under the Act, "7 feet or more beyond the main front of any building of which it forms part, and in which any persons are employed or sleep." In all such cases the projection is to be provided by the owner "with a roof constructed of fire-resisting materials not less than 5 inches thick." This clause will affect many hundreds of shopkeepers in the metropolis, and it largely depends upon the administration of the clause whether an owner's business is to be stopped, or whether he may be permitted—as I think later on in the Act will be permitted—to pug the ceiling joists from the upper surface and to render the roof fire-resisting, or whether he will be compelled to take off roof and ceiling to form the fire-resisting covering referred to. The clause gives permission to construct a "lantern light" or "ventilating cowl" in this roof, but

it must not be less than 6 feet from the main front of the building. What harm a "lantern light" or "ventilating cowl" would work in case of fire if either were placed 3 feet from such wall I know not.

Section 12 deals with dormer windows or doors opening on to roofs, or other proper means of access to roofs, and I do not think any reasonable objection can be urged by architects to this clause.

Section 13 deals with the "conversion of buildings," which really means that practically no alteration can be made in a building which will render it not in conformity with the provisions of this Act without the consent in writing of the Council. This is another section which, to my mind, intrudes upon the domain of occupancy, and it may be stretched to any length by a "busy-body" controlling authority, as the section goes on to say that "convert" shall include any change of user whether involving any structural alteration or not, and notice of such conversion shall be given to the district surveyor by the owner or occupier of the building to be converted."

Sections 16, 17, and 18 deal with district surveyors, their duties and their fees, and Section 17 converts, I think, district surveyors into policemen or detectives.

Section 22 refers to appeals to the Tribunal, which may be made within two months after the owner may be dissatisfied with the proceedings of the Council under certain sections, and I may add, with pleasure, that the power to so appeal extends to several important sections.

Section 23 is one which more nearly upsets the idea of an Englishman that "his house is his castle." It gives power to the Council, their officers, and district surveyors at all reasonable times and after reasonable notice to "enter, inspect, and examine any building, structure, or premises to which they have reasonable grounds for thinking that the provisions of this Act apply." Judging by the prying proclivities of some sanitary inspectors, who very quickly form what are, to their minds, "reasonable grounds for thinking," I tremble for the man who has a building more than 50 feet high from the pavement, or who has premises which afford sleeping accommodation for more than 20 persons.

Section 24 deals with penalties for non-compliance with the provisions of the Act, and I commend the damatory paragraphs of this section to all would-be offenders who may think that they can successfully evade the thoughtful care of their protectors. No, the lawyers have been at work here, as one gathers by the use of the words "knowingly and wilfully"; and I respectfully caution every "owner" against "knowingly and wilfully" doing anything in this world without the consent of the Council.

Section 28 is marginally described as "For Protection of Inns of Court," and this is the

only piece of real humour which I have detected in the Act, because it turns out that the Honourable Societies respectively of the Inner Temple, the Middle Temple, Lincoln's Inn, and Gray's Inn shall be exempt from the operations of the Act; in other words, the whole of the lawyers occupying these Inns may be left to be burnt to death under the sub-heading of "Protection." We in this room know a great many lawyers in those Inns, and we raise our voices against selecting them to remain victims of risks which no other members of the community may incur.

There are several other exemptions from the Act which I think ought not to be, because it seems as if the rich owners of London can secure exemption from these serious inroads upon property, whilst the poorer owners are, *volens volens*, brought within the range of what will in many instances prove to be ruinous requirements.

The first schedule of the Act deals with fire-resisting materials, and I am somewhat surprised to find "granite" in the list. Of course there is not a building material in existence which will not go in a furious fire, and granite would probably be the first to split up and lead to a catastrophe.

In the case of hard woods, the thickness is reduced from 2 inches to 1½ inch finished thickness, but I have always thought that in staircases the wall strings certainly need not be as thick as the other parts. In sub-section (7) of the schedule certain squares of glass specified are not to exceed "16 square inches"; whether that means a square 4" x 4" or a square 1' 4" x 1' 4" I do not know.

The second schedule deals with fees payable to district surveyors, and I think it will be generally conceded, bearing in mind the status of many of our district surveyors, that however much money the Council may have wasted or may waste on this Act, they are certainly not wasting much on the fees to be paid to district surveyors.

I have thus given a general flying comment upon the Act. We must remember that it is an Act and not a Bill, and we must all do the best we can with it. Its success or failure will depend very largely upon the manner in which it is administered, and we in this room will not condemn the administrators until they have had a fair trial. If the officials who will have to do the work will bring to bear upon the provisions of the Act sound common sense, and keep the spirit of the Act, rather than the letter, always before them, much trouble will be saved. Every living man and woman dreads death from fire, and fair and reasonable protection can be afforded them quite as much by the practical exercise of common sense as by the exhibition of fads and fancies which too often characterise constituted authorities.

As to the drafting of the Act, I think it is much clearer on the whole than many other Acts; but it would have been still clearer if it had been punctuated. Why Acts of Parliament should not be

made intelligible by punctuation Heaven only knows.

As regards the general provisions for escape by roofs, I think power should have been given to compel adjoining and recalcitrant owners to consent to ladders being attached to their premises—these would help both sides—but I see nothing to prevent an adjoining owner objecting to ladders which would allow an applicant to conform to the new law.

We will all trust to the Council to administer

the Act in a reasonable manner; if they do, they will have the assistance and co-operation of all architects; if they do not, they must look forward to constant attempts at evasion and to bitter litigation, which will neither protect lives nor advance the real interests of the biggest metropolis in the world.

I should like to add that a well-written leading article on the new Act appeared in *The Builder* of 18th November last, the reading of which I commend to all those who have not yet perused it.

DISCUSSION.

Mr. HENRY T. HARR, *Vice-President*, in the Chair.

Mr. J. DOUGLASS MATHEWS [F.] said that, as Chairman of the Committee of the Institute appointed to deal with the Act, he thought it only right that he should give some explanation as far as he was able. Mr. Woodward's remarks were very much to the point, and in some cases very amusing. He was glad to see that there was scarcely any point he had touched upon that had not received the very careful attention of the Institute Committee, and also the very full consideration of the House of Commons and the Lords' Committees. Many days (something like twelve or thirteen) were given to the consideration of the preamble alone. It was urged by many concerned that the best thing would be to get the Amendment Bill withdrawn; and that as the County Council desired to have an amendment of the Building Act, the two should be considered together and come on in a future Session. The first thing was for the County Council to prove the case for the preamble, and that was done by the Superintending Architect and the Chief of the Fire Brigade. As a matter of fact, it was never expected that the conduct of the case would be in that direction. It seemed a small matter to decide whether it was desirable to promote the Bill this Session, or to postpone it. This course having been adopted, days were occupied in the examination and cross-examination of these two gentlemen, and by that means the Committee had, as they thought, the facts before them, and at last decided that the preamble was proved. So much time having been taken with the preamble but little time was possible for the consideration of the clauses, and many of these would bear improvement at the present time. With regard to the first point Mr. Woodward had mentioned, as to fire protection by the County Council, the Institute took a very strong line, and in fact the point was raised entirely by the Institute. Their point was this: The County Council were the fire authority for London, and therefore it was maintained—and the point was put very clearly indeed by counsel, Mr. Pembroke Stephens, K.C.—that the first duty of the County Council was to secure the provision of every possible means of escape from the outside of buildings. The

Institute Committee had a very strong point there, as by their own statistics the County Council showed that within (so far as he remembered) seven years the loss of life through large fires had been gradually reduced from 5·3 to 1·8, especially in the last three years. That showed plainly the importance of attacking fires as they originated. The Queen Victoria Street fire brought general attention to the subject. He did not think there was the least doubt that the great loss of life there was due to the want of a proper ladder to reach to the upper windows. The poor creatures in the upper floor were evidently expecting a fire-escape to be brought to them, as it had been brought to the floors below. It was not a matter of getting on to the roof. In the excitement no staircase could possibly have saved those poor creatures. Great stress was laid on the necessity of the Council dealing with such a case as that. In recent years there had been a substantial diminution in the loss of life, and excellent means were now brought to bear on the slightest fires. That showed plainly enough that the external work of the County Council ought to receive, and had received, considerable attention. The constitution of the Tribunal of Appeal was fiercely contested throughout the progress of the Bill; but it was not finally dealt with until almost the day before the Bill was passed. The Tribunal of Appeal in the Bill was proposed to be differently constituted from the present, but he was glad to say that all the opposing bodies were in favour of the present Tribunal of Appeal. The Institute Committee thought that the Tribunal of Appeal should be duplicated; but although it was not provided for by the Bill, he understood means would be taken to this end. He was sorry to say that he only knew by accident, about an hour previous to this meeting, of Mr. Woodward's Paper. He should like to have had an opportunity of considering it a little more in detail. With regard to the matter of plans or drawings, they knew that lawyers always considered that all drawings were plans, and the words were retained. With regard to plans, it would be found that under the new Act there was considerably less labour required compared

with that proposed in the draft Bill. The trouble and expense of preparing useless drawings were very strongly brought before the Committee, and it was not for want of urgent representation that the requirements were not less than allowed. Everybody believed that the Council meant to carry this Act through in a fair and not in a rigid spirit, which might tend to thwart it. In the case of the Factories and Workshops Act, he believed that the administration in the last two or three years had tended in that direction. He was certain that the County Council had seen from this long examination, and the strong opposition from some of the opposing bodies, that it meant something more than red tape. There would be, he thought, every desire shown by the County Council to make the Act a workable one; but the difficulty was to know where to draw the line. But if it was to prevent loss of life by fire it was no use making an Act of Parliament that would be absolutely useless, and therefore it contained stringent requirements which were necessary if it was to be of any use at all. The drawings required were only those necessary to show what was intended for the fire-escape. Again, with regard to the certificate of the Council, it is provided that the Council were to have a certain time in which to accept the plans; and if they were not objected to within fourteen days, then it was to be assumed that the County Council had adopted them. That would save a great deal of trouble and worry. With regard to the next point the case might be as Mr. Woodward said: a building might be passed for a particular purpose and then used for another. If it was used for the storing of inflammable material or things of that kind, what was considered a safe building to-day might be a very unsafe one to-morrow; and therefore it was necessary to deal with it. As to lessening the height of high buildings, they knew 60 feet was the original height, and it was now reduced to 50 feet. The reason of that was that the Chief of the Fire Brigade distinctly pointed out that there was a far greater possibility of saving life 50 than 60 feet from the pavement. A computation was made of the number of buildings between 50 and 60 feet; and although there were in this particular neighbourhood very high buildings, taking London generally there was a very small percentage of buildings between the heights of 50 and 60 feet, and therefore the Committee passed the clause. Another point was that instead of the County Council forcing their own requirements upon persons, they were quite willing for the plans to be sent to them with suggestions; and therefore it would be for the Council to approve rather than to require very important alterations. In reference to projecting shops, the reason of no lantern being within 7 feet was that it was necessary so that the firemen should have the opportunity of putting their ladders up against the front of the house. The Bill as drafted forbade having any skylight or any

means of lighting for a very considerable distance. That was reduced. The R.I.B.A. and the Surveyors' Institution together proposed a modification which allowed a lantern to be formed at the front: 6 feet was to be allowed, but it did not deal with the distance from the party-wall, which was desired, and the limit of the areas of light was omitted. The great point was that, taking large front shops where many great fires have occurred, the flames naturally attacked the roof, which, especially in long shops, was the only escape for the inmates. Therefore the roof should be fireproof, or rather fire-resisting; concrete pugging between the joists might be used so as not to interfere with the ceilings of the shops. With regard to the Englishman's house being his castle, it used to be believed that that was so; but he was afraid that the idea had been given up a great many years ago. Whether it was invaded by the inspector of the water company or of the gas company, or what not, one's house seemed to be at the mercy of anybody who chose to come in. But still the special object of this Act was to take means to prevent loss of life from fire, and not to wait until a fire had occurred. He did not quite agree that district surveyors were to be degraded to policemen just yet. As a matter of fact, what was felt was that the district surveyor should have the superintendence after the Council had approved the drawings, and that the matter should be in his hands rather than in the hands of an outside officer of the Council. In the case of a complaint notice would be given to the County Council, and they would require their own officer, or the district surveyor, to make a report; but, in any case, whatever was required by the Council would be handed over to the district surveyor rather than to some other officer. In reference to the penalties, the amounts were heavy, not exceeding £20, and £10 a day if the notice was not complied with. It was thought that £5 was quite sufficient, and £10 would meet the case. As to the exemption of the Inns of Court, it was well known that the gentlemen of the long robe were the masters of the situation. If they were disposed to save themselves a few pounds or shillings and to risk their lives, it was a matter for them. It was, however, not new legislation. There were other bodies represented, practically all of them representing individual interests. The opposition of the Institute was on general grounds, and for the benefit of the public. One objection was the limitation of twenty persons inhabiting buildings or being employed there. They tried to get the words inserted "employed above the ground floor," but they could not convince the Parliamentary Committee, and it now stood without those words. Many warehouses and business buildings had a great portion of the employees on the ground floor, and therefore it was unnecessary to take all these precautions when practically the people could, if a fire occurred, run out at the front door with the greatest ease. When he was speaking about proving the preamble, he should have mentioned that under ordinary

circumstances he should have been called to give evidence after the Council had opened their case; but he felt that he should not be acting rightly on the part of the Institute by trying to prevent the passing of a Bill of this kind. They did not desire to do this, but merely to make it a workable Act, and he therefore thought it much better to reserve any evidence until they came to the clauses, otherwise they should be doing more harm than good. The Institute would not like it to appear as if they had opposed the passing of an Act which was in the interest of the protection of the general public from death by fire. With regard to fireproof material their Committee had a good deal to say upon that, and the Council met them in several ways. There was difficulty under the Factory Acts in knowing whether the 2 inches meant 2 inches or 1½ finished; and they got it limited to 1½ inch thick. Mr. Woodward need not be afraid with regard to the 4 inches by 4 inches. It would be 16.

Mr. WOODWARD: It really means 4 inches by 4 inches, then?

Mr. MATHEWS (continuing): Yes. He was glad to know that the drafting of the Bill had come out so well as it had after passing through the mill. It was a far-reaching Bill, and he thought that altogether it was understandable. He hoped that it would be administered in a fair and reasonable way; if so, good would be the result.

Mr. E. A. GRUNING [F.] said he felt very strongly that they ought to move a vote of thanks to Mr. Woodward and to Mr. Mathews for the very clear and definite explanations of the Act which they had given to the Meeting. As regards the Tribunal of Appeal, the members of that Tribunal had felt deeply the loyalty of the profession to them, both surveyors and architects. The Tribunal tendered their most hearty thanks for the way in which the profession supported the Tribunal against the false accusations of representatives of the London County Council, who challenged their character and their capacity. Mr. Mathews had mentioned the wish that the Tribunal should be duplicated. The Tribunal themselves felt that this ought to be so, and they were now making arrangements to ask the different parties who nominated the members of the Tribunal to appoint substitutes, which would be done in due course. There would be no difficulty at all about this; for some years before he was a member of the Tribunal he held the appointment from the Council of the Institute as a substitute for the late Mr. Arthur Cates. He moved that a hearty vote of thanks be passed to Mr. Woodward and Mr. Mathews.

Mr. EDMUND WOODTHORPE, M.A. [F.], said he wished to thank Mr. Woodward for bringing this important matter forward. With regard to the Act, he was sorry Mr. Woodward had not been down at the House to give his criticisms of it. They ought to know what the Act was that they

had to deal with. It would be a very serious matter to a great many owners in London. Shortly, the Act was divided into four parts: the first one, namely Section 7, which was to come into force in January next, dealt with every new building the top floor of which was 50 feet above the level of the pavement, or which was occupied by more than twenty persons, or in which twenty persons slept or were employed. It dealt with either a high building or a twenty-person building. Such a building, unless only occupied by one family, must be constructed in accordance with plans to be approved by the Council. With regard to what Mr. Woodward said about sub-section (4) dealing with a 50-foot building, that meant, as far as he read it, that in a 50-foot building (which was not a twenty-person building also) sufficient means of escape need only be provided from the top. With regard to a twenty-person building, sufficient means of escape must be provided for all the floors. That, he thought, was quite clear. Section 9 was retrospective dealt with existing buildings exactly on the lines of Section 7. A building used for one family only, if it had more than twenty people in it, was exempt from both these sections. Section 9 dealt with existing buildings, and did not come into force until January 1907. Any dwelling-house occupied by more than one family which was a high building—that is, a building 50 feet above the level of the pavement—had to have sufficient means of escape at the top; and any building occupied by more than twenty persons, or in which more than twenty persons were employed, had likewise to have the consent of the Council, and approval of plans, and so on. Coming to Section 10, which dealt with projecting shops to buildings where any persons were employed or sleep, where the shops projected 7 feet in front, the part over the projecting shop had to have a fire-resisting door. He thought they could put in anything they liked so long as they got what was fire-resisting according to the definition of the Act. Their Committee had got one thing inserted: viz. to make a floor fire-resisting, instead of putting in wet concrete between the wooden joists they could use concrete blocks 6 inches thick supported on fire-resisting bearers fixed to the joists. He had done all he could to get that introduced. In the last few years he had seen many floors rotted through wet concrete. The concrete blocks would be found an excellent substitute if they were properly pointed up. Section 10, dealing with projecting shops, and Section 12 would come into force next January. Section 12 dealt with every existing building, including those having projecting shops, but excepting those that had been dealt with under the two preceding sections, 7 and 9—the 50-foot building or the twenty-person building. A dwelling-house occupied by not more than two families was exempt from Section 12, unless it had a projecting shop. This section dealt with every

building that had more than two stories above the ground floor, or was more than 30 feet in height. All these buildings must have a dormer window or trap-door opening on the roof, and proper means of escape from fire. The trap-door must be self-opening, and must have a ladder up to it. That was not a very serious matter, he thought. The other matters were very serious, because they practically depended entirely on what the Council required. He hoped with Mr. Woodward and Mr. Mathews that they would not ask for anything like they had asked for under the Factory Act. With regard to means of escape, he had always felt—and he would give way to none in his experience of a certain part of London, where the soft-goods trade was principally within a certain area of the City—that there were buildings there from which there would be considerable difficulty in escaping if a quick fire occurred. Within the last twenty years the employment of girls in such buildings had enormously increased. The morning after the fire in Queen Victoria Street he went over the premises. There was a way out at the top by a trap-door. There was a ladder which had burned quite away. If they had read the evidence carefully they would have seen that one or two men or boys did get out of that trap-door, but there was so much smoke that directly the door was opened a draught was attracted and the flames and smoke must have been drawn up through the trap-door so quickly that it prevented anyone else from getting out. That ought to be a matter for serious consideration to them as architects. They must as far as possible keep that outlet at the top free from draught from the staircase or anywhere else. To give an instance, he remembered seeing a fire in New Cavendish Street late at night. Suddenly the windows were opened on the second floor, and the occupants leant out in their night-shirts; a few seconds afterwards the flames burst through the window-openings. Fortunately a fire-escape ladder arrived in time, and they were rescued. He was perfectly astonished at the few seconds that it took after the windows were opened for the flames to come out. He knew that Mr. Woodward felt very strongly about all public authorities, and no doubt would like to have a Building Act of his own. For his own part he must say as an architect that he had never had any trouble with the County Council. He had always taken his plans to them in pencil, and he was bound to say that in several instances they had asked him for less than he had provided for. If one went to them in time they were reasonable; but if the architect went on without submission to their requirements they pulled him up: they had to protect people who were unable to protect themselves. With regard to the conversion of buildings, that very morning a case came before him of a building that was erected as a warehouse, and which now it was proposed to use for sleeping

accommodation for 300 of the unemployed. What were they to do in a case like that if they had not any power to deal with that building? If the section Mr. Woodward had referred to were not in the Act, they would not be able to deal with that building at all. With regard to district surveyors becoming policemen, he was a district surveyor and an architect, and he hoped that would not be the case. The Act said that the district surveyor should, as soon as he discovered that a building was not in accordance with the requirements, report such non-conformity to the Council. He had also to supervise the construction of the exits and means of escape. He would also mention another instance that occurred only three days ago. He had to give evidence before a coroner's jury about a fire within the City which occurred on a staircase. There were about thirty girls employed on the top floor. He had to say that there was practically no adequate means of escape, except by a movable ladder which the manager said was not easily accessible. When they got the ladder it had to be put on a high box. One had to climb up and open the skylight. He tried the skylight and it took nearly all his strength to open. He felt doubtful whether the girls could have opened it. Had the fire destroyed the staircase, he did not see how they could have escaped unless a fire-escape had arrived. There was no other means of escape. The staircase was a wooden one inclosed in a wooden partition. Now, that building would be dealt with under the section with regard to more than twenty persons. He had great pleasure in seconding the vote of thanks to Mr. Woodward for bringing the matter before them.

Mr. EDWIN T. HALL [F.] said he cordially supported the vote of thanks. Mr. Woodward had given them, as he always did, a very lucid description, and had spoken, as he always did, with that freedom with which an Englishman boasts he always can speak. Whether he liked or disliked a thing, he said so honestly, and called a spade a spade. He must say that his own experience had been like that of Mr. Woodthorpe: he had always found the County Council to be exceedingly fair. He had had many a fight with them, but it had always been carried on in a nice spirit; and he did not think, as a body who had grave responsibilities, they were exacting. They had always met him in the most fair and reasonable way. He took the opportunity of saying this before the Committee of the House of Commons when the Bill was being considered, and when he was opposing them on behalf of some very large interests. With regard to the Bill that went in and the Act that came out there were many and very great differences. The one great point his clients had asked him to advise them upon at first was the question of the appeal. A great deal was said in favour of its being made the same appeal as under the Factory Acts, but in giving his evidence he strongly supported the present

Tribunal. He pointed out that architects and owners, and all who were interested in saving people from fire, could have the greatest confidence in the Tribunal of Appeal, because they were not doctrinaires; they were not gentlemen who might have retired from business and were therefore out of touch with things, but were in the stress of the fight; they knew what was wanted, and knew the sensible way of dealing with it; and that consequently substantial justice was always done, whether their decisions were for or against the Council. It was a great pleasure to him to see that the Committee in both Houses took that view, and that the Tribunal of Appeal received from them so gratifying a testimonial as to be put in the Bill under the peculiar circumstances of the case. He should like also to say that the County Council had in a measure compulsion brought upon them to bring in this Bill. It was not a faddy Bill, because the Home Secretary issued such a minute with regard to it that the Committee of the House must have felt from the first that they would have to give some reasonable clauses for fire protection. It was, therefore, under the stress of Government pressure, as it were, that the Council brought in this Bill; and that, he thought, justified them in doing it. He did not think the Act as it now stood, although it was strong in many of its provisions, would hurt anybody who put up new buildings; he was sure that no decent architect in London would wish to put in any designs for a new building in opposition to this Act or the Act of 1894. The difficulty always arose when dealing with old buildings. The County Council seemed to say in the House that it would not put any onerous load on owners of buildings. He was able to quote a case in his own experience of a County Council staircase which he had put in in a building in Wood Street which cost about £3,000, and he should think the average cost of a staircase in any City building would be not less than £500 to £800. Another thing he strongly fought for was the minimising of the number of plans which architects had to give. He put it to the Committee that it was in nobody's interest to have large numbers of plans. Architects did not like it, and it was found very difficult to justify so great an expenditure as would be called for if they had to supply all the drawings originally specified in the Bill. They had now been brought down to a reasonable number of drawings. He did not think they had now grave cause to complain, because any authority that had to deal with a building ought to have before it the necessary information to let it see the extent of the building—what its height was—and what means there were of escape from fire. As originally drafted the Bill practically meant that the architect might not only have to give all 8-inch scale drawings, but every detail, which in some cases would have involved hundreds of drawings. One alteration of great importance

was in the section which dealt with suburban houses. As the Bill was first drawn, every house that was more than one story in height had to be provided with means of exit from the roof. All those provisions were wise in the heart of London; but this Act applied to the County of London; that is to say, it extended from Hampstead down beyond the Crystal Palace. When they were dealing with suburban houses—many of them detached houses, standing in an acre or two of land—it was absurd to say that they should have means of escape from the roof, and he pointed that out in his evidence. No one would dream of going on to the roof of a house on the top, say, of Sydenham Hill if he wanted to get out of a fire. It would not be a means of escape, and it was absurd to call it so. He would get out of the window and down to the ground in some way if there were no other means of escape. The house now must be a three-storied house, to exceed a certain height; and even then it would be absurd to make such provision for escape in such cases as he had referred to. But taking the Act all round, and having regard to the responsibilities of the County Council, he did not think the Act was over-exacting if it were reasonably administered; and, as he had said before, from his own experience he believed it was most likely to be reasonably administered.

Mr. A. MARVON WATSON [A.] said he should not, under ordinary circumstances, have ventured to interpose in the discussion, but the new Act was *terra incognita* to old and young. They had only had since last August to study it. He should like to support the vote of thanks to Mr. Woodward. It had been mentioned that the Institute particularly directed their criticism of the Bill to the provisions with regard to the Fire Brigade. Mr. Mathews mentioned the loss of life through fires in London in 1898. According to the evidence of Captain Hemphill, in that year the expenditure from the rates on the London Fire Brigade was £197,000 odd, and in 1903-4 the expenditure had risen to £239,000. Captain Hemphill then said that when that expenditure had been made the Fire Brigade would be as efficient as it could be, and that no further expenditure on the Brigade would save more lives. With regard to the reduction in height from 60 to 50 feet, the great point made on behalf of the promoters was that Captain Hamilton drew a distinction between what he called a life-saving ladder and a fire-fighting ladder. He explained that the fire-fighting ladder could be used at a very great height, but that life could only be saved slowly with a life-saving ladder at 40 feet perpendicular height. At 50 feet life could be saved with great difficulty, and above that height it was a sort of forlorn hope. One life might or might not be saved. Under the Act of 1894 the limit for protected stories was 60 feet. It was now reduced from 60 feet to 50 feet. That, he believed, was how that arose. He was not

sure that Mr. Mathews made it quite clear about the parapets. Under the old Act means of escape had to be provided by an access to the roof in buildings 90 feet high if there was a parapet. Under the new Act with buildings over 90 feet high access to the roof and a parapet had to be provided to protect people from slipping off.

Mr. HALL: New buildings.

Mr. WATSON: A parapet, or a handrail, for both new and old. With regard to the exemption of an existing building with not more than two families, even in that case if the building had less than two families in it, and it happened to be behind a projecting shop, it still had to have access to the roof.

Mr. GEORGE ELKINGTON [*F.*] said that the consideration of the new Act had already been forced on many of them who practised in the City, not only as regards matters at present in an incipient state, but also with regard to questions of contract and with regard to letting existing buildings. The question was very properly and naturally being asked, How was the position between landlord and tenant to be affected by the Act when it came into operation in 1907? Their colleagues the District Surveyors could help architects generally in the matter if they did as they had done in the past. Perhaps the District Surveyors' Association, without hard-and-fast rules being drawn up, could come to a general consensus of opinion as to what was necessary in these existing buildings to render them fairly safe with regard to means of exit. Many architects consulted the District Surveyor of a district in which they were going to build at an early stage, and he thought wisely. If they could thus have a general indication of what was likely to be required it would be very useful. He heard that the County Council were not proposing to formulate regulations and by-laws; that might come later, but he had it on the authority of a District Surveyor that they were not proposing to issue anything equivalent to the regulations issued under the Factories and Workshops Act. That rendered it more necessary for them to know what would be required. To give one instance, suppose the case of a building, such as had been referred to, of a certain height that came under the Act. Most of them knew what would be required in a factory—two staircases and so forth. But in the case of a high building would it be sufficient (many of them thought it might be) if one ordinary fairly good and fairly safe wooden staircase were isolated on each floor, so that a fire breaking out on one floor would not run up and get to the roof; or would it be necessary that there should be a secondary access? Upon questions like that, he thought, it would be well if District Surveyors generally came to some decision and helped them with it. He hoped it might not be that the District Surveyors would find difficulty in interpreting the Act, but it seemed to him there might be difficulty. Mr.

Woodward had told them that the Act did not attempt to define what the word "reasonable" was. He thought it a good thing for them that it was not in the definitions, because if there had been a definition it would have been this, that what the County Council thought right was reasonable, and what anybody else thought right was not reasonable. He should like to join with those who had spoken about the County Council; he thought it quite possible to appreciate the courtesy and consideration that they met with from the administrative staff of the County Council without feeling altogether full sympathy with the views of that body in its public capacity.

The CHAIRMAN said he thought they were much indebted to Mr. Woodward for the very full way in which he had put this matter before them, and the extremely lucid and concise way in which he had dealt with it. The result had been a very interesting discussion. He did not himself feel able to say much about the Act because he knew very little about it. He had had something to do with the County Council lately under the Act, and he must say that he had found them extremely reasonable and very easy to deal with in these matters. They all knew how difficult it was to put anything connected with a building into legal phraseology and absolutely legal form, and the difficulties in drawing up the new Act must have been very much greater than in drafting an ordinary Building Act. He should say that this particular Act had been thought out as well as it possibly could have been under the extremely complicated and difficult circumstances. There was every reason to suppose that it would be administered in a perfectly reasonable way, and would not bear too hardly either upon architects or upon property owners. One thing he felt about fire protection and fire-resisting buildings, it was rather an anachronism, he thought, that they should be able to erect a building within the confines of the City of London which was not entirely composed of fire-resisting materials. It seemed to him quite wrong that they should be able to put a building with a wooden roof anywhere within, say, a four-mile radius in London.

The vote of thanks having been put from the Chair and carried unanimously.

Mr. WOODWARD said he was very much obliged to the Meeting for this expression of their gratification. With regard to the gentlemen who had said that they did not hear of the proposal that he should read these short notes until a day or two ago, he could only say that it was only a few days ago that the President, knowing that there would not be very much to do that evening, had asked him if he would prepare such a Paper. He had had very much pleasure in doing it, and very much greater pleasure in listening to the most interesting discussion which had arisen out of it.



9, CONDUIT STREET, LONDON, W., 9th Dec. 1905.

CHRONICLE.

THE NOVEMBER EXAMINATIONS.

Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the undermentioned provincial centres on the 7th and 8th November. Of the 210 candidates admitted, claims for exemption from sitting for the examination were allowed to the number of 46. The remaining 164 candidates were examined, with the following results:—

District	Number Examined	Passed	Relegated
London	82	67	15
Birmingham	5	2	3
Bristol	8	6	2
Cardiff	13	12	2
Leeds	17	12	5
Manchester	24	18	6
Newcastle	14	11	3
	164	128	36

The passed candidates, with those exempted—numbering altogether 174—have been registered as Probationers. The following are their names and addresses:—

ADAM: Alexander; 4 Smithills Street, Paisley, N.B. [Master: Mr. C. Davidson].
 AISH: Clifford Augustus; "Rosemont," Fairfield West, Kingston-on-Thames [Master: Mr. W. H. Dushwood Caple *].
 ARMSTRONG: Eric Macdonald; Architectural Branch, P.W.D. Pretoria, Transvaal, S.A. [Emanuel School, Wandsworth Common].
 BAILEY: Claude Frederick; The Poplars, Mellich Road, Walsall [Masters: Messrs. Bailey * & McConna *].
 BALL: Alwyn Lancaster; 22 Rotton Park Road, Edgbaston, Birmingham [Master: Mr. T. L. Ball].
 BARTHOLOMEW: Benjamin Vincent; 21 East Avenue, Walthamstow, Essex [Master: Mr. W. Street Wilson *].
 BARRETT: Frederick Charles William; "Glenholme," 11 Moss Hall Crescent, North Finchley, N. [Margate College].
 BARRY: Francis Benton; "Penshurst," Kew Road, Richmond, S.W. [County School, Richmond, Surrey].
 BERRINGTON: Adrian; Bon Accord, Prenton Hill, Birkenhead [Liverpool University Architectural School].

BERRY: Herbert Courtenay; 23 Old Broad Street, E.C. [Master: Mr. W. H. Atkin Berry *].
 BESSANT: John Archibald; 3 Regent's Park Road, Gloucester Gate, N.W. [Master: Professor Beresford Pite *].
 BETTS: William Stanley; 10 Thirsk Road, Lavender Hill, Clapham, S.W. [Polytechnic School of Architecture].
 BLACKER: Eveline Dew; 20 Victoria Square, W., Clifton, Bristol [Masters: Messrs. Outley & Lawrence].
 BLENKINSOPP: Henry; 105 Upper Hanover Street, Sheffield [Masters: Messrs. C. * & C. M. Hadfield *].
 BODDINGTON: Henry; Pownall Hall, Wilmslow, Cheshire [Masters: Messrs. Charles Heathcote * & Sons].
 BOSHER: Gwilym; Holborn House, The Walk, Merthyr Tydfil [Master: Mr. Arthur Marks].
 BOX: Charles Wilfrid; The Vicarage, South Benfleet, Essex [Masters: Messrs. Nicholson * & Corlette *].
 BOYD: David Wright; 19 Alexandra Park Avenue, Belfast [School of Art, Belfast].
 BRACE: Alan Geoffrey; Sunny Croft, Knowle, Warwickshire [Winchester College].
 BRAY: John Sanders; 7 Silver Terrace, St. David's, Exeter, Devon [Master: Mr. J. Archibald Lucas *].
 BURTON: William John; 118 Erlanger Road, New Cross, S.E. [King's College Evening Architectural School].
 BUTT: Charles Frederick; 17 Chichester Street, Upper Westbourne Terrace, W. [Master: Mr. C. J. Harold Cooper].
 CABLE: Robert William; 11 Acre Lane, Brixton, S.W. [Dulwich College].
 CAMERON: Charles Stuart; 18 Clifton Street, Aberdare, S. Wales [Masters: Messrs. W. & R. O. Dowdieswell].
 CANNON: Francis Edward; Kenilworth House, Lincoln [Lincoln Municipal Technical School].
 CARTER: George Ralph; 8 Tower Street, Welford Road, Leicester [Master: Mr. A. Hall].
 CARTER: William; 5 Merton Street, Sunderland [Master: Mr. F. E. Coates *].
 CASTLE: Horace Faulkner; Fairlawn Y.M.C.A., 635 Fulham Road, S.W. [Royal College of Art].
 CHIVERS: Ernest Samuel Cross; Dunstable Street, Ampthill, Beds [Master: Mr. Percival C. Blow *].
 CHURCH: Reginald; 2 Atholl Gardens, Glasgow, W. [Masters: Messrs. John Burnet & Son *].
 CLARK: Alexander Neilson; St. Helier, Grayabott Road, Southsea [St. Bees College].
 CLARK: Walter Lowellyn; 7 Tilmore Villas, Petersfield, Hants [Master: Mr. H. T. Keates].
 CLARKE: William Ernest; Cheam Road, Ewell, Surrey [Master: Mr. J. Hatchard Smith *].
 CLARKSON: George Flint; 43 Holland Road, Kensington, W. [A.A. Day School].
 CLOUGH: William Howe; Ravenshurst, Low Fell, Gateshead-on-Tyne [Master: Mr. F. H. Holford].
 COOPER: Archibald James Campbell; Haslemere, Henfield, Sussex [Master: Mr. Gilbert M. Simpson *].
 COREKILL: Lawrence Lavery; Riverside, Ramsey, Isle of Man [Master: Mr. George Kay].
 CRAMPTON: Frederick Lovedridge; 31 Albert Street, Newark [Newark School of Science and Art].
 CROOKE: Herbert Allen; 84 Goldsmith Avenue, Acton, W. [Master: Mr. J. A. Souttar].
 CULLIFORD: Leonard Arthur; 10 Castlebar Road, Ealing [Polytechnic School of Architecture].
 DALGLISH: Kenneth; c/o Richd. H. Hill, Esq., Ingram House, 165 Fenchurch Street, E.C. [Master: Mr. Richd. H. Hill *].
 DAVIDSON: Charles Turnbull; 4 Linden Gardens, Harton, South Shields [Master: Mr. John M. Dingle].
 DAVIES: Gilbert Samuel; 12 Mirador Crescent, Swansea [Master: Mr. H. C. Portsmouth].

- DAVIS: Virgil Rich; 9 Tanybryn Street, Aberdare, Glam. [Master: Mr. Thomas Roderick].
- DAWSON: Douglas James Septimus; Wykeham House, Queen's Road, Barking [Master: Mr. C. J. Dawson *].
- DEAN: William; 8 Sandrock Road, Lewisham, S.E. [Master: Mr. E. Harding Payne *].
- DOWDESWELL: Frank; "Prevone," Grovelands Road, Palmer's Green, N. [Master: Mr. A. Mitchell Torrance].
- DRANSFIELD: George Scholefield; 10 Dodworth Road, Barnsley [Masters: Messrs. R. & W. Dixon].
- DYE: Herbert; Woodcrofts, London Road, North End, Portsmouth [Master: Mr. C. W. Bevis *].
- DYKE: David Nicholas; 67 Kennington Oval, S.E. [H.M. Office of Works].
- EBBS: Edward Harold Montague; 18 Fairlight Avenue, Harlesden, N.W. [Polytechnic School of Architecture].
- EDGE: Walter Frederic; Cleathurst, Meadow Road, Edgbaston, Birmingham [Clifton College].
- EMES: James Albert; 12 Grand Parade, Batham Hill, S.W. [Master: Mr. Walter Emson].
- EVANS: Albert Edward; 71 Duffryn Street, Ferndale, S. Wales [Masters: Messrs. Lewis & Morgan].
- FIELDING: Walter Harrison; 79 Cathedral Road, Cardiff [Belford County School].
- FILLINGHAM: Edward; 73 Horton Lane, Bradford.
- FILLITER: George William, B.A. Oxon.; 5 Upper Camp Street, Higher Broughton, Manchester [Master: Mr. B. W. H. Brameld *].
- FISHER: Norman; 16 Winston Gardens, Headingley, Leeds [Masters: Messrs. Walter A. Hobson & Co.].
- FORBES: Alexander; Kidmore Road, Caversham, Reading [Masters: Messrs. Millar & Cox].
- FORD: Guy Singleton; Second Avenue, Sherwood Rise, Nottingham.
- FORSYTH: Gerald, B.A. Cantab.; 24 George Street, Hanover Square, W. [Master: Mr. A. W. S. Cross *].
- FOSTER: William Sydney; Grosvenor Hotel, Carr Lane, Hull [Masters: Messrs. Brodric, Lowther & Walker].
- GARBUTT: Wilfrid Thomas; 4 Devonshire Terrace, Bradford, Yorks [Bradford Grammar School].
- GASKELL: Reginald Robinson; 100 Beverley Road, Hull [Masters: Messrs. Freeman, Son & Gaskell].
- GIBBINGS: Walter White; Brunswick Lodge, Reading, Berks [Master: Mr. E. Keynes].
- GIBBS: Arthur; Beulah House, Russell Road, Moseley, Birmingham [Master: Mr. W. H. Bidlake *].
- GLABHAM: Stanley; 23 Tatham Street, Sunderland [Master: Mr. Joseph Spain *].
- HALL: Montague Ashley; Newport Cottage, Newport, Lincoln [Masters: Messrs. W. Watkins & Son *].
- HAMMOND: Frederick Millett; 105 Arncliffe Terrace, Segrave Lane, Bradford, Yorks [Masters: Messrs. W. J. Morley & Son *].
- HARPER: Hal; "Fernleigh," Douglas Road, Handsworth, Birmingham [Master: Mr. A. S. Dixon].
- HARRISON: John Southern; 24 Nelson Square, Bolton, Lancashire [Master: Mr. M. Robinson *].
- HARVEY: John Culy; 25 Allen Road, Northampton [Master: Mr. G. H. Stevenson].
- HATTENSLEY: William Hanchett; 20 St. Andrews Street, Cambridge [Master: Mr. A. Paul MacAlister *].
- HAWKER: Gilbert Victor; "Braidley," Braidley Road, Bournemouth [Masters: Messrs. H. E. Hawker & Mitchell].
- HAYHURST: John; 32 Manor Road, Blackhorn [Master: Mr. P. J. Parkinson].
- HEDLEY: George Ernest; Savings Bank, Barrington Street, South Shields [Master: Mr. Fred Bennoldson].
- HEDLEY: Gerald Montagu; 34 Beverley Terrace, Cultercote, Northumberland [Masters: Messrs. Oliver, Lesson & Wood *].
- HILL: Joseph; 8 Simonside Terrace, Heaton, Newcastle-on-Tyne [Master: Mr. F. H. Holford].
- HOME: Geoffrey Wyville; 90 Gunterstone Road, West Kensington, W. [Dulwich College].
- HOOPER: Harold Ridley; 7 Priory Place, Friars Street, Ipswich [Master: Mr. John S. Corder].
- HORNIMAN: John Henry; 21 Magdalen Terrace, St. Leonards-on-Sea [Master: Mr. Henry Ward *].
- INCHAM: Lawrence William; "Ivy Dene," Wentworth Road, Leicester [Master: Mr. A. H. Hullam].
- JARRETT: Eric Bowstone; 21 Nightingale Gardens, Clapham Common, S.W. [Master: Mr. W. H. Atkin Berry *].
- JOHNSTON: Bruce; 10 Senton Avenue, Mutley, Plymouth [Master: Mr. T. R. Kitchell *].
- JOHNSTON: John James; Bush Hotel, Longtown, Cumberland [Master: Mr. G. D. Oliver *].
- JUDD: Frederic Stanley Gordon; 48 Alma Road, Windsor [Master: Mr. Stephen M. Wyborn].
- KIMPTON: Charles Stanley; 2 Glencoe Terrace, The Grove, Wandsworth, S.W. [Master: Mr. B. H. Weymouth *].
- LAKEMAN: Albert; 4 Mornington Road, Regent's Park, N.W. [Master: Mr. E. K. Purchase].
- LAW: George; Standon, Ware, Herts [Master: Mr. John Murray *].
- LEDGER: Godfrey Horton; Ashton House, Worples Road, Epsom, Surrey [King's College School, Wimbledon].
- LEE: Arthur John Harry; Westmoor, Mount Pleasant Lane, Upper Clapton, N.E.
- LEECH: William Leonard Baghurst; "Inglenook," Copdock, nr. Ipswich, Suffolk [Masters: Messrs. Bisschopp & Cantley *].
- LEETE: Sidney Tebbutt; Sutherland House, Weston-super-Mare [Master: Mr. W. H. Watkins *].
- LEITH: George Eslemont Gordon; Architectural Association, 18 Tufon Street, S.W. [State Model School, Pretoria, Transvaal].
- LEWIS: William John; 16 Wood Street, Ferndale [Master: Mr. A. O. Evans].
- LITTLEJOHN: Louis Salmon; 4 Vernon Avenue, Eccles, near Manchester [Master: Mr. Alfred K. Hellingworth].
- LODGE: Bertram Howitt; Heathfield, Howard Lane, Putney, S.W. [Master: Mr. Richard Willcock *].
- LOGAN: Philip Norman; Eastfield House, Southville, Bristol [Bristol Grammar School].
- LOUW: Wynand Hendrik; Architectural Association, 18 Tufon Street, S.W. [Master: Mr. E. Seidiger, of Cape Town].
- LOVICK: Charles Edward; High Street, Crowthorne, Berks [Master: Mr. Francis E. Morris *].
- LUSBY: Arthur Milner; Portchester House, Fareham, Hants [Master: Mr. A. E. Stallard].
- LYNE: Daniel Roy; Ryecote, St. Luke's, Cheltenham [Masters: Messrs. Prothero & Phillott].
- MCLEAN: Donald, B.A. Cantab.; Main Street, Corbridge-on-Tyne [Masters: Messrs. Armstrong & Wright].
- MADDON: John Darby; Ivybank, Llanishan, Cardiff [Master: Mr. E. Seward *].
- MATTHEWS: Bernard Frank; Ingram House, Stockwell Road, S.W. [Masters: Messrs. Pitt & Balfour *].
- MATTOCKS: Robert Henry; Heathcote, Heathwaite, Windermere [Master: Mr. Thomas H. Mawson *].
- MAWSON: John William; Burrowfield, Windermere [Master: Mr. Dan Gibson].
- MCCOY: Herbert George; Royal Grammar School, High Wycombe, Bucks [High Wycombe Royal Grammar School].
- MECKLEHAM: David Lang; 37 Upper Park Road, Hampstead, N.W. [Masters: Messrs. G. Baines & Son].
- MERCER: Smith; 13 Infirmary Road, Hackburn [Masters: Messrs. Briggs & Wolstenholme *].

- MIDSON: Harold James; 26 Wolseley Rd., Crouch End, N.
 MINNS: Stanley Eldon; 187 Coltman Street, Hull [Hymers College, Hull].
 MOORE: Harold Edward; 7 Mount Avenue, Ealing Broadway [Berkhamstead School].
 MOORE: F. W.; Laurel Grove, Keighley [Masters: Messrs. Moore & Crabtree].
 MOOREHEAD: Cyril John; 1 George Street, Chesham Hill, Manchester [Master: Mr. Frank Edwards].
 MORGAN: Ernest Edmond; Fitzroy House, Womersley Road, Crouch End, N. [Master: Mr. Glendinning Moxham].
 MURPHY: Henry John; c/o A. Hill, Esq., 22 Old Georges Street, Cork [Master: Mr. Arthur Hill *].
 NEWBOUND: Albert Everard; Chatham House, Chatham Station, Newark, Notts [Masters: Messrs. Sheppard & Harrison].
 NIMMO: William Wilson; 3 Osborne Terrace, Gosforth, Newcastle-on-Tyne [Master: Mr. J. Walton Taylor *].
 NICHOLSON: Arthur Thomas; 37 Lyndhurst Street, Bolton [Masters: Messrs. Bradshaw * & Gass *].
 OGDEN: William Herbert; 15 Peterson Road, Wakefield [Master: Mr. A. S. Nicholson].
 PARKINSON: George; 118 Hollingreave Road, Burnley [Masters: Messrs. A. J. S. Shaw * & T. H. Vowles *].
 PEABCE: Tom Leighton; c/o Sir Wm. Emerson, 2 Grosvenor Mansions, 76 Victoria Street, S.W. [Master: Mr. E. M. Bruce Vaughan *].
 PECKHAM: Arthur Nyton; 6 Smith Square, Westminster [Masters: Messrs. Colcott * & Hamp *].
 PIGOTT: Richard Mountford; 1 Earlsfield Road, Wandsworth Common, S.W. [Manor House School, Clapham].
 PLUMMER: Francis Christopher; Halewood Rectory, Liverpool [Trent College, Long Eaton].
 POCKOCK: Percy Willmer; The Beaches, Egham (Leys School, Cambridge).
 PRICE: John James; Hardwick House, Clifford, Herefordshire.
 PRITCHARD: Ivor Mervyn; "Gwynfa," Beaumaris, N. Wales [Master: Mr. Joseph Owen *].
 PUTWAIN: William Stewart; 128 Copleston Road, East Dulwich.
 RAVEN: Oscar Boulton; Wellington House, Gainsborough [Master: Mr. E. F. Green].
 RICE: Richard Grenville; 46 Friar Gate, Derby [Masters: Messrs. Naylor * & Sale].
 RICHARDS: Herbert Edward; 18 Wallasey Road, Ilford, Essex [Master: Mr. H. Leon Caluche].
 RIENAECKER: Victor; 55 Marloes Road, Kensington, W. [A.A. Day School].
 RODERICK: Henry; Ashbrook House, Aberdare [Master: Mr. Thomas Roderick].
 ROGERS: Matthew Spencer; Pretoria Villa, Church Street, Flint [Master: Mr. Samuel Evans].
 ROYDE: Walter; St. Edmund's Avenue, Porthill, Stoke-on-Trent [Master: Mr. B. T. Longdon].
 RUSSELL: George Herbert; Highbury Lodge, Hitchin, Herts [Master: Mr. Walter Millard *].
 SAMUELS: Edward Percy Proctor; Edenfield, Llanfair-tyddan, N. Wales [Master: Mr. H. S. North *].
 SANDERS: Ernest; Royal Grammar School, High Wycombe, Bucks.
 SCHOOLING: Stanley Philip; "St. Kilda," Bycullah Avenue, Enfield [Masters: Messrs. Hart * & Waterhouse *].
 SCOTT: Bernard Wardlaw Habershon; Harden House, Waverley Road, Enfield [Gresham's School, Holt, Norfolk].
 SCOTT: Eric Wilfrid Boning; Aspland House, Aspland Road, Norwich [Master: Mr. A. F. Scott].
 SEDDON: Charles James Gordon; 15 Dennington Park Road, West Hampstead, N.W. [Master: Mr. Wm. Woodward *].
 SHAPLEY: Alfred Edwin; 33 Rothbury Terrace, Heaton, Newcastle [Master: Mr. J. J. Hill].
 SIMMONDS: Raymond Henry; 9 Alma Road, Southampton, Hants [Master: Mr. C. H. Brightiff *].
 SKINNER: Theodore Arthur; 6 Chesterfield Road, Bristol [Master: Mr. W. S. Skinner].
 SMITH: Claude Vivian; "Rosindell," 191 Upper Grosvenor Road, Tunbridge Wells, Kent [Master: Mr. Henry Elwyl].
 SMITH: Sam; 14 Tower Street, West Hartlepool [Master: Mr. E. A. Whigham *].
 SOUSTER: Charles Leslie; 8 High Road, Gorleston, Great Yarmouth [Master: Mr. H. D. Arnott].
 SOWERBY: Frank Douglas; Ingram House, 42 Stockwell Road, London [Uppingham School].
 STEDHAM: Percy Norman; 91 West Street, Farnham, Hants [Blenheim House School].
 SWINDELLS: Francis Harold; 93 Fitzjohn's Avenue, Hampstead, N.W. [Rugby].
 TAPPER: Michael John; 16 Melina Place, St. John's Wood, N.W. [Uppingham School].
 THOMAS: Arthur Philip; Bryn Ogwy, Bridgend, Glam. [Master: Mr. Ivor P. Jones *].
 THOMAS: Edward John; Gwerna House, Maesycwimmer, Cardiff [Master: Mr. E. Seward *].
 THOMPSON: William Harding; Lyndholme, Hornby Road, Blackpool [Master: Mr. Tom G. Lamb].
 THOMSON: Ronald John; The Hermitage, Arbroath, Scotland [Masters: Messrs. Carver & Symon *].
 THORNE: Gordon Lewis; Briar Lea, Atharley Road, Southampton [Master: Mr. Charles H. Brightiff *].
 TINKER: Arthur; Bank House, Broad Street, Pendleton [Masters: Messrs. Bramell * & Smith].
 TIPPETTS: Arthur Thomas; 5 Tower Villas, Cowslip Road, S. Woodford, Essex [Polytechnic School of Architecture].
 TUTT: Alfred Ernest Victor; 394 Commercial Road, Portsmouth [Master: Mr. Charles C. Cook].
 VEE: Arthur Edwin; 48 Thornton Avenue, Chiswick, W. [Master: Mr. Richard Peters].
 WALKER: Denis Henry; 52 Quay Road, Bridlington [Grammar School, Bridlington].
 WALKER: Sam Parnham; Pelham House, Newark, Notts. [Masters: Messrs. Bailey * & Wood *].
 WALLER: Arthur; 879 Bolton Road, Bradford [Masters: Messrs. James Young & Co.].
 WALMSLEY: Frederick George; 77 Larkhill, Blackburn [Master: Mr. Fred J. Parkinson].
 WILLIAMS: Rowland; Bronant, Menai Bridge, N. Wales [Master: Mr. Joseph Owen *].
 WOODSON: George Sydney; Cedar Villa, Tilehurst, Berks [Masters: Messrs. H. J. Mackinder & W. J. Childs *].
 WOODWARD: Frank; 10 Church Row, Hampstead, N.W. [Master: Mr. Wm. Woodward *].
 WRAY: Ernest Wameford; 8 Paulton Square, Chelsea, S.W. [Master: Mr. E. T. Felgate].
 WYLDE: Frederick Charles; 15 Royal Terrace, Ivelley Road, Clapham, S.W. [St. Luke's & St. Denys' School, Southampton].
 WYN: Oscar; Glyn Menai, Port Dinorwic, R.S.O., N. Wales [Master: Mr. Ellis F. White].
 YOUNG: William Cecil; Heaton Villas, Heaton Moor, Stockport [Master: Mr. R. B. Preston *].

The asterisk (*) denotes members of the Institute.

Intermediate.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and the undermentioned provincial centres on the 7th, 8th, 9th, and 10th November. One

hundred and thirty-one candidates were examined, with the following results:—

District	Number Examined	Passed	Religated
London	82	37	45
Bristol	9	6	3
Leeds	10	8	11
Manchester	21	14	7
	131	65	66

The passed candidates, who have been registered as Students, are as follows, the names being given in order of merit as placed by the Board of Examiners:—

TRUELOVE: John Reginald [*Probationer* 1901]; 24 Wostenholme Road, Sharrow, Sheffield [*Masters*: Messrs. Hall & Penton].
 SMITH: Roland Ingleby [*Probationer* 1903]; "Eastlea," Whitcross Road, Weston-super-Mare [*Master*: Mr. Harold Smith *].
 DAWSON: William Roberts [*Probationer* 1904]; Waterloo House, Gibraltar Road, Halifax, Yorks [*Masters*: Messrs. R. Horsfall & Son].
 BENSLYN: William Thomas [*Probationer* 1901]; Ivy House, Rounds Green, Oldbury, near Birmingham [*Master*: Mr. Alfred Long].
 WOOLLATT: John [*Probationer* 1904]; "Hollywood," Wilford, nr. Nottingham [*Masters*: Messrs. Evans & Son *].
 HODGES: Claude Vivian [*Probationer* 1900]; 70 Melbourne Road, Leicester [*Master*: Mr. Walter Brand *].
 EMERSON: Harry Valentine Milnes [*Probationer* 1902]; 34 Sutton Court, Chislewick, W.
 EVANS: Roy [*Probationer* 1903]; 40 Buckingham Mansions, West End Lane, N.W. [*Masters*: Messrs. Young & Hall *].
 AINSWORTH: Edwin [*Probationer* 1903]; "Rodier," Revidge Road, Blackburn [*Master*: Mr. T. H. Duerden].
 METCALFE: Cecil Broadbent [*Probationer* 1902]; 23 St. Andrew's Place, Bradford, Yorks [*Masters*: Messrs. W. J. Morley & Son].
 THOMSON: Frank Drummond [*Probationer* 1904]; 322 Blackness Road, Dundee [*Masters*: Messrs. Niven & Wigglesworth *].
 BOUTCHER: Charles Geoffrey [*Probationer* 1904]; 91 Enid Street, S.E. [*Master*: Mr. T. H. Crawford].
 BROMHEAD: Frank Harold [*Probationer* 1899]; Lucknow Lodge, Greenfield Road, Harborne, Birmingham [*Master*: Mr. W. A. Harvey].
 SCHOFIELD: John Frank [*Probationer* 1903]; Ash Lodge, 49 Bow Road, E. [*Master*: Mr. A. E. Habershon *].
 WADE: Fred. [*Probationer* 1900]; 47 Beamsley Road, Frizinghall, Bradford [*Master*: Mr. E. H. Parkinson].
 ALLEN: Ernest George [*Probationer* 1904]; "Sunnycroft," Gordon Road, S. Woodford, Essex [*Master*: Mr. Walter Botting].
 BRISTOW: Christopher [*Probationer* 1904]; 210 Gipsy Road, West Norwood, S.E. [*Master*: Mr. Frank T. Verity *].
 ALLNER: James [*Probationer* 1902]; o/o R. Barnett Preston, Esq., Diocesan Chambers, 51 South King Street, Manchester [*Master*: Mr. R. Barnett Preston *].
 ANDERSON: Herbert Cooper [*Probationer* 1898]; 16 St. James Terrace, Heywood, Lancs. [*Masters*: Messrs. Thos. & Chas. B. Howdill *].
 OSBORNE: Frank John [*Probationer* 1902]; 95 Colmore Row, Birmingham [*Master*: Mr. John P. Osborne *].
 DICKS: Harold Edward [*Probationer* 1901]; Semington, Cleeve Hill, Cheltenham [*Master*: Mr. H. W. Chatters *].

MOBBS: Sydney Wilfrid [*Probationer* 1901]; "The Laurels," Oulton, Lowestoft [*Master*: Mr. J. W. Cockrill *].
 WHITTAKER: David [*Probationer* 1903]; 154 Boundary Road, St. Helen's, Lancs. [Liverpool University].
 CURPHEY: Charles Edwin [*Probationer* 1903]; 10 Somerset Road, Douglas, Isle of Man [*Masters*: Messrs. Geo. & W. R. Kay].
 SCAIFE: Edgar John [*Probationer* 1906]; 125 Westbrook Street, Bolton [Royal College of Art, S. Kensington].
 BRACEWELL: Arthur [*Probationer* 1903]; Thwaites, Kighley, Yorks [*Master*: Mr. W. Rhodes Manns].
 WARD: Frank Dorrington [*Probationer* 1904]; Poydings, Park Road, Hastings [*Master*: Mr. Henry Ward *].
 FINN: Edwin [*Probationer* 1902]; "Thornley," Ethelbert Road, Canterbury [*Master*: Mr. W. J. Jennings].
 WILLMAN: John Henry [*Probationer* 1904]; "Merri-vale," Northampton Road, Wellingborough [*Masters*: Messrs. Sharman & Archer].
 DOVASTON: John [*Probationer* 1903]; 14 Madeley Road, Ealing, W. [*Master*: Mr. W. G. Parkins].
 HANSCOMB: Charles Ernest [*Probationer* 1904]; 13 Algiers Road, Ladywell, S.E. [*Master*: Mr. Alfred Roberts *].
 HOY: Percy Cartwright [*Probationer* 1902]; Fern Cliff, Heaton Mersey, Manchester [*Master*: Mr. G. H. Willoughby *].
 SHAW: William Gordon [*Probationer* 1902]; 21 St. Silas' Road, Blackburn, Lancs. [*Master*: Mr. A. R. Gradwell].
 GARDNER: Donald Saunders [*Probationer* 1901]; The College, Weston-super-Mare [*Masters*: Messrs. S. J. Wilde & Fry].
 HAYS: John Wilson [*Probationer* 1903]; 6 Lake Bank, Wingate, co. Durham [*Master*: Mr. H. T. Gradon *].
 ATTACK: George Albert Severns [*Probationer* 1903]; 49 Saunders Road, Blackburn, Lancs. [*Master*: Mr. F. C. Ruddle].
 BRENTON: Phillip Silverthorne [*Probationer* 1902]; Rockleigh, 44 Combe Park, Weston, Bath [*Masters*: Messrs. Silcock & Beay].
 BURROW: Robert Guy [*Probationer* 1903]; 4 Penrhyn Terrace, Old Trafford, Manchester [*Masters*: Messrs. Beaumont & Son].
 CATT: Alfred Edward [*Probationer* 1897]; 37 Hardman Road, Kingston-on-Thames [*Master*: Mr. A. Wells *].
 CHAUDLER: James Hubert [*Probationer* 1901]; 100 East Sheen Avenue, S.W. [*Master*: Mr. Frank Verity *].
 CHRISTIEN: Reginald Hayner [*Probationer* 1900]; 41 Arkwright Street, Bolton [*Masters*: Messrs. Potts, Son, & Hennings *].
 COGHILL: Francis James [*Probationer* 1903]; "Glen-dale," King's Road, Cheltenham [*Masters*: Messrs. Prothero & Phillott].
 COLLINGWOOD: Richard Lord [*Probationer* 1904]; 28 Beaumont Avenue, Richmond, S.W. [*Master*: Mr. F. W. Dixon].
 DIXON: Reginald Arthur [*Probationer* 1903]; 72 Great Barr Street, Birmingham [*Masters*: Messrs. Oliver Floyd & Salt].
 ELIJON: Robert Kitching [*Probationer* 1899]; 5 Euston Street, Huntingdon [*Masters*: Messrs. Rowland Plumb & Harvey].
 GOULSTON: Reginald John [*Probationer* 1900]; "Andros," Mayow Road, Sydenham, S.E. [*Master*: Mr. A. B. Stenning *].
 HEALING: John Burton [*Probationer* 1903]; 46 Willow Road, Hampstead, N.W. [*Master*: Mr. Arthur Keen *].
 HIGSON: Herbert Walker [*Probationer* 1901]; Overton House, Church Road, Smithills, Bolton, Lancs. [*Masters*: Messrs. Potts, Son & Hennings *].
 JONES: George Howard [*Probationer* 1901]; "Ash-dene," 66 Cathedral Road, Cardiff [*Master*: Mr. Ivor Jones *].

- KING: George Grant [Probationer 1904]; Ardara, Cultra, Belfast [Master: Mr. J. St. J. Phillips*].
- LEIGH: Douglas Chantler [Probationer 1905]; Elm Grove, Winsford, Cheshire [Masters: Messrs. Wm. & Sagar Owen*].
- LITTLE: Tom Curry [Probationer 1900]; School House, Longtown, Carlisle [Masters: Messrs. Johnstone Bros.].
- MAJOR: William Paul [Probationer 1899]; 19 Woolcot Street, Redland, Bristol [Masters: Messrs. Samson & Cottam*].
- MESTON: Alexander Clark [Probationer 1902]; 491 High Road, Chiswick W. [Master: Mr. Edmund Woodthorpe*].
- OLDREY: Clarence [Probationer 1902]; 29 Henstock Road, Plumstead, Woolwich [Masters: Messrs. Mallow* & Grocock].
- RICHARDS: Thomas M. [Probationer 1900]; 17 Cedars Road, Barnes, S.W. [Master: Mr. H. B. Measures*].
- RODD: Burnell H. T. [Probationer 1902]; "Moreville," Talbot Road, Winton, Bournemouth [Masters: Messrs. Fogarty* & Parnell].
- SHAFT: James Walter [Probationer 1902]; Rival Lodge, Haring, Petersfield, Hants [Master: Mr. J. W. Walmisley*].
- SMITH: Hubert Niemann [Probationer 1903]; "Clevedon," Lewisham Hill, S.E. [Master: Professor R. Elsey Smith*].
- UNSWORTH: Gerald [Probationer 1902]; 6 Station Road, Petersfield, Hants [Master: Mr. W. F. Unsworth*].
- WHEATLEY: Arthur [Probationer 1903]; 29 Gawber Road, Barnsley [Masters: Messrs. Wade & Turner].
- WILSON: Herbert John [Probationer 1901]; "Brinkdale," Park Road, Peterborough [Master: Mr. Boyes].
- WINDER: John Driver [Probationer 1901]; 9 Bollingbroke Grove, Wandsworth Common, S.W. [Master: Mr. C. J. Smith*].
- WOOD: Ernest Marshall [Probationer 1902]; 18 The Crescent, Hipperholme, Halifax [Masters: Messrs. Walsh & Nicholas].
- YOUNG: Allan Murray Campbell [Probationer 1903]; 135 Kennington Road, Lambeth, S.E.
- BALLARDIE: James Hutchison de Caynoth [Probationer 1895, Student 1900]; 19 Villiers Street, Strand, S.W.
- BENJAMIN: Ashley Florian [Probationer 1901, Student 1902]; 24 Norfolk Square, W.
- BOYLE: Joseph [Probationer 1898, Student 1901]; Court Chambers, 15 Mawdsley Street, Bolton.
- BRAITHWAITE: James Ellis [Probationer 1900, Student 1902]; May House, St. Mark's Avenue, Leeds.
- BRIDGES: Sydney [Probationer 1898, Student 1901]; 30 Wickham Road, St. John's, S.E.
- BULLOCK: Albert Edward [Probationer 1900, Student 1902]; 45 Fairlawn Avenue, Chislewick, W.
- *BUNNEY: Michael [Special Examination]; 23 Queen Anne's Gate, Westminster, S.W.
- COCKER: John [Probationer 1901, Student 1903]; Stamford Chambers, Stamford New Road, Altrincham.
- CUMMING: Tarras Talfourd [Probationer 1899, Student 1902]; 7 Christ Church Gardens, Reading.
- DIXON: Ernest John [Probationer 1896, Student 1900]; 23 Idmiston Road, Stratford, E.
- DRUMMOND: Bertram [Probationer 1897, Student 1901]; 16 Clifford's Inn, E.C.
- DYER: Frank [Probationer 1898, Student 1903]; 167 Chorlton Road, Brooks's Bar, Manchester.
- FRASER: Thomas Speirs [Probationer 1899, Student 1895]; c/o Alex. Cullen, Esq., Hamilton, N.B.
- *GREEN: William Curtis [Special Examination]; 14 Gray's Inn Square, W.C.
- HAMPSHIRE: Ernest Lowellyn [Probationer 1899, Student 1901]; 18 Moyser Road, Streatham, S.W.
- HANSON: George [Probationer 1901, Student 1902]; 28 Southfield Square, Munningham, Bradford.
- *HOLDEN: Charles Henry [Special Examination]; The Red House, Codicote, Welwyn, Herts.
- *HUNTER: Adam [Special Examination]; Brynfield, Colwyn Bay.
- LAMONT: Alexander Hay [Probationer 1902, Student 1900]; c/o Hay, 24 Millar Crescent, Morningside, Edinburgh.
- *LORDEN: Leonard William Grandall [Special Examination]; Hythe, Kent.
- MARR: William Percy [Probationer 1897, Student 1903]; Thornfield, Kingsbridge, S. Devon.
- McDERMOTT: Walter Kingsley [Probationer 1903, Student 1903]; 190 Strand, W.C.
- MITCHELL: Daniel [Probationer 1901, Student 1902]; 3 Grosvenor Park, S.E.
- *MOON: Henry Alfred [Special Examination]; c/o Messrs. Whitfield & Thomas, 60 Haymarket, S.W.
- MORLAND: Geoffrey [Probationer 1901, Student 1904]; 73 Morland Road, Croydon.
- MORRAN: Henry Stanley [Probationer 1901, Student 1903]; 51 London Street, Fitzroy Square, W.
- *MYERS: Albert Robert [Special Examination]; 206 Bruntsfield Place, Edinburgh.
- NOTLEY: Albert Carr [Probationer 1898, Student 1900]; St. Lawrence House, Trump Street, E.C.
- O'CONNOR: Dominic Mary, B.A., B.E. [Probationer 1901, Student 1903]; 4 Pembroke Square, Kensington, W.
- *PEYTO: Alfred James [Special Examination]; Fernleigh, Wickham Lane, Welling, Kent.
- RAMSEY: Stanley Churchill [Probationer 1899, Student 1902]; The Grange, Herne Bay.
- RILEY: William Henry [Probationer 1903, Student 1904]; 98 St. Saviour's Road, Leicester.
- RYLE: Herbert [Probationer 1900, Student 1901]; 9 Avignon Road, Brockley, S.E.
- *SLAW: Dugald Alexander [Special Examination]; 27 Rochester Square, Camden Road, N.W.
- SHEARER: James Hughan [Probationer 1900, Student 1901]; Museum Chambers, 22 Queen Street, Exeter.
- STRATTON: Percy Montague [Probationer 1901, Student 1902]; Chestnuts, Upper Mitcham, Surrey.

The asterisk (*) denotes Members of the Institute.

Exemptions from the Intermediate Examination.

The following Probationers, having attended the full course in Architecture at University College, Liverpool, and having obtained a first-class certificate at the College Final Examination, have been granted exemption from sitting for the Intermediate Examination, and are registered as Students R.I.B.A.:—

- HILL: Henry Houghton [Probationer 1901]; Redgarth, Douglas Road, Cork.
- THORNTON: Harold [Probationer 1905]; Westerott, Park Road, Dewsbury.

Final.

The Final and Special Examinations, qualifying for candidature as Associate R.I.B.A., were held in London from the 17th to the 24th November. Of the 90 candidates examined, 45 passed, and the remaining 45 were relegated to their studies. The successful candidates are as follows:—

- *ADDISON: Arthur W. [Special Examination]; 5 Mackenzie Road, Cambridge.
- AITKEN: Andrew Dunkine [Probationer 1904, Student 1904]; 2 Forsyth Street, Airdrie.

SYKES: John Reynolds [*Probationer* 1899, *Student* 1902]; 40 Camden Square, N.W.

*TURNER: Percy [*Special Examination*]; 12 Midland Buildings, Bradford.

*TYPE: Marcus Oswald [*Special Examination*]; 33 Newhall Street, Birmingham.

WHEATLY: Reginald Francis, B.A. [*Probationer* 1901, *Student* 1903]; Nettlestead, Bromley, Kent.

WILLMOTT: Edmund Charles Morgan [*Probationer* 1900, *Student* 1903]; 182 Holland Road, Kensington, W.

WOOD: Leonard Sutton [*Probationer* 1904, *Student* 1904]; Hillcrest, Alexandra Park Road, Wood Green, N.

WOODSEND: Henry Edward [*Probationer* 1900, *Student* 1903]; 16 Villa Road, Nottingham.

The following table shows the number of failures in each subject of the Final Examination:—

I. Design	31
II. Mouldings and Ornaments	22
III. Building Materials	13
IV. Principles of Hygiene	6
V. Specifications	11
VI. Construction, Foundations, &c.	11
VII. Construction, Iron and Steel, &c.	19

* The candidates to whose names an asterisk is prefixed entered for the Special Examination, which is for architects in practice not less than twenty-five years of age, and chief assistants over thirty. Such candidates are exempted, by special resolution of the Council, from the Preliminary and Intermediate Examinations, and from submitting "Testimonies of Study."

The Colonial Examinations.

Final and Special Examinations were held by the Institute during July last at Sydney, New South Wales, and at Durban, South Africa. The Examination at Sydney was conducted by the Institute of Architects of New South Wales, and the Examination at Durban by the Natal Institute of Architects. The following candidates were examined and passed—viz.:

AGUTTER: Edwin Albert [*Probationer* 1898, *Student* 1902]; Box 134, Pietermaritzburg, Natal.

*BARR: John [*Special Examination*]; Architectural Branch, Public Works Department, Sydney, N.S.W.

The Registration Question.

The Chairman of the General Meeting last Monday made the following statement to the Meeting on behalf of the Council:—

This being the first Business Meeting of the present Session, it has been felt by the Council that some statement should be made from the Chair with regard to the procedure in respect of the question of Registration.

As you are all aware, a committee was appointed by the General Body two years ago for the purpose of considering and reporting upon the subject. At the end of the first year the *personnel* of the Committee was changed, but the continuing Committee held a large number of meetings, and at the end

of last Session prepared a Report which has been printed and circulated in the JOURNAL [22nd July].

In the regular course of procedure the Report in question would have been presented either at this meeting or at a Special General Meeting convened for the purpose as early as possible in the present Session.

The Council and the present Registration Committee have been, and are, carefully considering the question, and it is thought desirable that before the Report is presented there should be some unanimity as to the best course to be pursued. It is hoped that it may be possible to call a Special General Meeting for the purpose of receiving it and the advice of the present Committee thereon early next year.

Architectural Competitions.

At the Business Meeting of the 4th inst. Mr. HORACE T. BONNER [A.], in accordance with the notice printed on the Agenda, duly brought forward the following resolution:—

"That neither the President nor the Council, nor either of them, shall approach the promoters of any competition with the object of their nominating competitors; nor shall the President or Council appoint any professional Assessor in any competition, unless requested to do so by the promoters of such competition."

Mr. HORACE T. BONNER [A.], in rising to propose the resolution, disclaimed any attack on the Council. It was not anything, he said, that had been done by any particular Council, nor any particular member of it, that had caused him to bring the matter forward. It was the principle of the thing. It was not the first time that he had brought the subject before the Institute in different forms. There had been a growing feeling among some of the members of the Institute that their Council were going beyond what the Charter or the By-laws allowed. He had taken considerable trouble and spent some time upon this matter, and he hoped that while his remarks were, as they must be, of a somewhat general character, they could take it from him that the information he had received was founded on very good authority. His motion was divided into two parts: the first related to the Council having control over any competition or the appointment of competitors, and the second was with regard to the recommendation of any professional assessor. He wanted the Institute to hold such a position in the public estimation that the public and public authorities would come to them, and that the Institute should in no case go cap in hand to any committee, or any public body, suggesting that the Institute should nominate competitors, or even that it should appoint assessors. It would redound very much more to the credit of the Institute if it stood quite aloof from those matters. It

was laid down in their Charter that "the Institute is for the general advancement of civil architecture." It was not for the advancement of any particular clique, any particular body, or any particular committee, but it was for the general advancement of civil architecture. The Institute was not a school of art, and it was not to be run by members of any particular school. The Institute was not to be governed by a small circle practising within a very limited radius of that building. The Institute, in short, must be for the benefit of architecture—not for the benefit of architects. That was the principal reason he had brought this question forward. He had obtained a great deal of information upon the subject—information that unfortunately he dare not use in a particular way. He himself knew how difficult it was to get a living on the artistic side of architecture; and it was hard on younger men that they should be shut out, as it were, even from that limited circle toward which there had lately been a growing tendency to contract. His motion, as he had already explained, had nothing to do with the present Council, and with some of the matters to which he was going to refer the present Council had nothing whatever to do. He thought that their Council, whoever it might be composed of, whatever their ideas and principles might be, should devote themselves to the business of the Institute and nothing beyond it. There should be no feeling, no influence as to the question of competent architects—or "eminent architects" as some of the newspapers called them. He had no particular axe of his own to grind; he was speaking generally for the whole of the members of the Institute as regards the question of competitions. As regards the appointment of assessors, it was rather singular that professional assessors should be appointed only from the Institute, or generally from the members of the Council. It seemed strange that they should send a man from London perhaps two or three hundred miles away into the country to some great provincial city or town to adjudicate upon local requirements. The greater part of his time was taken up in travelling. He had a very limited period in which to do his work as professional assessor. He was generally a man, too, who was overwhelmed with the business of his own practice. He knew instances where professional assessors had not, in his opinion, always quite done their duty. It was not, he knew, a very pleasant duty; it was rather an unwelcome duty very frequently, and it was not a task to be undertaken lightly. A proper assessor, if they could get one, would be a gentleman who had almost retired from the profession, a gentleman of experience and leisure. Such men would be very much better qualified as professional assessors than many who were appointed under present conditions. He had a very long list of what he might call peculiar decisions arrived at by professional assessors.

He would give only a few instances. In a certain competition in the North of England a former Vice-President of the Institute was appointed assessor. He (the assessor) had drawn up most admirable conditions; he had sent a section of the buildings adjoining the site of the proposed building, and he had drawn an angle showing what the new buildings must not exceed. He had done all this, yet he decided in favour of a competitor who had entirely ignored these conditions. In that particular competition he (the speaker) was placed second. The same assessor in another important competition—for a building of some £70,000 or £80,000—was called in, to his certain knowledge, after the committee had made their selection. In this, a limited competition, the assessor gave the work to a firm because he knew them well, and the man who was really placed first by the committee was placed, he believed, third by the professional assessor, simply because he did not know him. They had heard such things before in that room. It had been said that a man could not be a clever man, because they had never heard of him. In another case a professional gentleman was the assessor, and his son was the successful competitor. In another case the assessor and the successful competitor shared offices. In another case an assessor from the Institute was sent to a provincial city: he spent five hours in going through thirty-four sets of designs, and he decided in favour of a competitor who had reduced all the sizes as required in the printed conditions; hence his design contained the smallest cubical contents, and for this reason the assessor placed this design first in order of merit. The assessor admitted himself that he was only five hours going through thirty-four sets of designs—works that in the aggregate had taken three and a half years' labour to produce. In another and a recent competition he knew that the Institute so insisted on appointing their own assessor that at last the promoters of the competition agreed to it. What was the consequence? There were over seventy sets of designs, beautiful drawings, all of them furnished with details—which was becoming now quite the fashion. Competition drawings were in fact becoming working drawings, with 4-inch scale details, and so on. In the aggregate the drawings submitted were all very creditable designs. Speaking roughly, two months would be occupied in preparing each set of designs: thus the total number would represent about twelve years of labour. He believed that the assessor was occupied as many hours in going through the seventy sets of designs.

Mr. LEONARD STOKES [*F.*], rising to a point of order, asked what Mr. Bonner's remarks had to do with the motion on the notice-paper.

Mr. BONNER: I am only showing how assessors appointed by the Institute have done their work. I must show some reasons for bringing my motion forward.

The CHAIRMAN (Mr. HENRY T. HARE, Vice-President): It does not seem to me that because an assessor has given what you presume to be an improper award, that is any reason why this motion should be carried.

Mr. BONNER: I will put it in another way. I know that as a matter of fact this Institute has approached promoters of competitions both with regard to nominating competitors and also with regard to appointing assessors.

Mr. E. A. GRUNING [F.]: I rise to a point of order. Mr. Bonner is making most unfounded accusations against members of the Council and also against members of the Institute.

The CHAIRMAN: If Mr. Bonner will give us evidence that what he alleges has actually taken place, it will be to the point; but so far as I know, and so far as members of the Council know, no assessor has ever been appointed in any competition unless the Institute has been invited to appoint him.

Mr. BONNER, continuing, referred to a letter in the *Building News* of the 1st inst. relating to the competition for the proposed Library at St. Pancras. The authorship of that letter, he said, had been attributed to him, but he was not the author. Whatever letters he wrote to the press he always appended his name to. Mr. Bonner went on to read the letter in question, which was addressed to the editor of the *Building News* and contained the following passages: "The information as the above in your last issue is very instructive. It reads that the President of the R.I.B.A. has consented to render his services both as an assessor and nominator of the competitors fit for designing such a building. Outsiders may therefore rest assured that the appointments to be made will only be from that august and very limited body—namely, competent architects. It seems as if the Institute leaders now desire to solely direct the course of competitions, but one can hardly believe this is supported by the general body of members, for it would entail a hardship on a large body of hard workers." In consequence of that letter he (the speaker) wrote to the Town Clerk of St. Pancras and put the question plainly and bluntly whether the Institute was to govern both competitors and the appointment of assessors. The inference to be drawn from the letter he had read was that the Institute wanted to govern both.

The CHAIRMAN: Not at all. In the case in question the President has accepted the position of assessor, and, as I understand it, is to nominate the competitors in this particular instance by direct invitation of the promoters.

Mr. BONNER: That is so according to the letter I have received from the Town Clerk of St. Pancras, and hence it was that I brought it before the Meeting as a matter of fair play.

The CHAIRMAN: Therefore the President in

this case has acted exactly on the lines of the resolution that you propose.

Mr. BONNER: That is what I wanted to know. But in other cases it has not been so; for instance in the Hove competition and in the Dartmouth competition. In those two cases the Institute actually wrote to the promoters of the competition. He had the information direct from the Town Clerks of the respective places.

The CHAIRMAN: The Institute wrote to the promoters to what effect?

Mr. BONNER: That they wished not perhaps to nominate competitors—possibly they found they could not do that but almost insisting that they should appoint the assessors.

Mr. EDWIN T. HALL [F.]: I rise to a point of order. Mr. Bonner has alleged that the Institute wrote to Hove almost insisting that it should appoint the assessor. What the Institute did was to send a copy of the Regulations which had been settled in that room, and which the Institute officials were instructed to send to every promoter of competitions. There was nothing more than that done, as I understand.

The SECRETARY: I take it to be my duty when I am asked by promoters to send them the Regulations for Competitions, to write calling their attention to Clause I, which makes the appointment of a professional assessor of paramount importance, and which states that the President is always ready to advise promoters on the point. That is the regulation routine letter that I always write.

Mr. BONNER went on to say that he quite agreed that professional assessors should be called in to assist a committee, but there was no reason why a man should be sent from London, say to Edinburgh or to Liverpool, where there were quite as able men, and probably men who were better acquainted with local requirements than anyone that could be sent from London.

The CHAIRMAN said that, so far as he could see, there was nothing in either part of the resolution which was contrary to the usual practice of the Institute in regard to competitions. Neither the President nor the Council had in any case nominated competitors unless they had first been invited to do so; and neither the President nor the Council had in any case appointed a professional assessor unless invited to do so. No pressure had in any case been brought to bear on promoters of a competition to induce them to come to the Institute. It was merely stated in the Regulations for Competitions that the President would be pleased, when desired to do so, to advise the promoters as to the appointment of an assessor. There was nothing that anyone could object to in the resolution; and if it was put to the Meeting, he presumed it would be passed unanimously.

Mr. BONNER said he should like further

to ask one question, and it was almost an international one: Did or did not the Institute write suggesting that it should appoint two English architects to compete for the Hague Palace of Peace?

The CHAIRMAN: No, they did not do so.

Mr. G. A. T. MIDDLETON [A.] seconded the resolution.

Mr. H. BONNER said he hoped the resolution would be passed, so that it might be an instruction for the guidance of future Councils of the Institute.

Mr. Wm. WOODWARD [F.] said the motion had already been seconded, but he had promised Mr. Bonner that if nobody else seconded it he would do so. He felt quite sure, however, that Mr. Bonner would now see, after the distinct explanations from the Chair, and after the observations of others present, that he was under an entire misapprehension, and instead of putting the resolution and recording on the Minutes something which must convey a rather different interpretation from what they desired, he hoped Mr. Bonner would see that the best thing to do would be to withdraw the resolution.

Mr. EDWIN T. HALL suggested that it would be wise to withdraw the resolution. If it were carried it must suggest to the outsider that there had been some impropriety. What would the public think? Mr. Bonner did not accuse anybody, but the public would not know that. The resolution affirmed what was always done: "That neither the President, nor the Council, nor either of them shall approach the promoters of any competition with the object of their nominating competitors." The Council never did so. To affirm that they must not do it implied that they had been doing something improper. The resolution went on: "Nor shall the President or Council appoint any professional assessor in any competition unless requested to do so by the promoters of such competition." They never had done so—never in a single case. But if this resolution were passed it would imply that they had. They were all anxious to impress on the public that it was to the interest of architects that there should be a professional assessor appointed. They had affirmed that again and again in that room. When a competition was announced, the Secretary, as a matter of routine, without referring to the Council, sends the promoters a copy of the Regulations, which says that it is desirable that there shall be a professional assessor.

Mr. BONNER said if it was the opinion of the Chairman and of the Meeting that the motion should be withdrawn, he left himself entirely in their hands. He was sure, however, that they would give him the credit of bringing the motion forward with the best of intentions.

The resolution was then taken as withdrawn and the further business of the meeting was proceeded with.

The late Alexander W. Mills.

Mr. Alexander W. Mills, the oldest practitioner in Manchester, who died at his residence in Bowdon, Cheshire, on the 22nd ult., in his 92nd year, had been a Fellow of the Institute during the years 1877 to 1884. Mr. John Holden [F.] has kindly contributed the following details of his career:—

The late Mr. A. W. Mills was born in London 8th May 1814, and commenced his architectural career in 1829 in the office of James Bunstone Bunning, at that time architect to the City of London, a gentleman well known and remembered for the many important buildings erected by him during his term of office, viz. the Coal Exchange, Holloway Gaol, Billingsgate Market.

While thus engaged during the day, and having a real love for the profession which he had adopted, he employed his leisure time during the evenings in attending the classes at the chambers (in Furnival's Inn) of Mr. George Maddox, a professor of architecture, at that time an old man and a violent enthusiast, but a thorough master of his art.

George Maddox was associated with the practice of architecture now generations back. He was for some time the principal assistant to the late Sir John Soane, and subsequently helped in the education of almost all the successful architects at that and a subsequent period. Amongst them may be named: Cockerell, Decimus Burton (who was entirely educated as an architect by him), Gilbert Scott, &c. George Maddox used to say that "no man could be an efficient architect unless he was, like Michael Angelo, a sculptor and painter as well." He was one of the earliest founders, along with David Roberts, of the Suffolk Street Gallery, and was a very clever artist.

After completing his articles A. W. Mills entered the office of Richard Tattersall in Manchester, where he laid the foundation of that practical knowledge which was so useful to him in after days.

After spending some time in Manchester, his old friend and master James Bunstone Bunning (whose pupil he had been for some five years or more) proposed that he should join him in Manchester, and they remained together some time. Bunning, however, being in London, practically the Manchester business was entirely in the hands of the junior partner.

This business was established during the year 1838, and, after the retirement of Mr. Bunning, was continued by Alexander W. Mills alone with considerable success until the year 1853, when he took into partnership with him his pupil, James Murgatroyd; the firm then became Mills & Murgatroyd, and was carried on with equal success until his retirement in 1882, when he left the entire business to his junior partner.

Some of the most important buildings in Manchester were erected by Mr. Mills during his term of practice, including the enlargement of the

Exchange in the early part of his career, and the present enlarged building afterwards erected on the site; the joint stations of the London & N.-W. Railway and the M. S. & L. Railway at London Road; the building known as Collie's Warehouse, in Aytoun Street, now "The Grand Hotel"; the extensive buildings belonging to the "Guardians of the Poor" in Manchester and Crumpsall; the enlargement of the Manchester Grammar School, with its very complete Gymnasium; the High School for Girls; the Manchester and County Bank, with its numerous branches, &c.

Mr. Mills was intimately connected with the city improvements up to the date of his retirement from practice, was well known and esteemed as an arbitrator and umpire, and his opinion was much valued in disputes of all kinds connected with building operations.

He was one of the founders of the Manchester Society in 1865, and was President from 1869 to 1871. He was a justice of the peace for the county of Chester.

Coal Smoke Abatement.

The following are among the subjects to be treated at the Smoke Abatement Conference to be held next week at the Horticultural Hall, Vincent Square:—"The Abatement of Smoke from Private Houses," by H. A. Des Vœux, M.D., and "The Distribution of Produced Gas as a means of alleviating the Smoke Nuisance," by S. E. Ackermann, on 18 Dec.; "Stoking and Smoke Abatement," by Commander W. F. Caborne, C.B., and "Report based upon Returns furnished by Manufacturers who have succeeded in securing the Abatement of Smoke in Factories," by S. Rideau, on 14 Dec. "Administration, Legislation, and Necessary Reforms" will be discussed on the 15th, when Sir Wm. Richmond, R.A. [*H.A.*], will preside. The Inaugural Address of the Conference is to be delivered by Sir Oliver Lodge, F.R.S., President of the Conference, on Tuesday evening, 12 Dec.

ARCHITECTS' BENEVOLENT SOCIETY.

The President's Appeal.

The result of the letter of appeal issued last October to over five thousand architects by the President of the Institute (who is also President of the Architects' Benevolent Society) is published below, together with amounts received prior to the appeal from new donors and subscribers. Mr. Walter Emden has intimated that he will increase his donation to £50 if nine other gentlemen will give a like amount. Mr. Wm. Glover has promised £50 in support of Mr. Emden's offer, and the Society of Architects has contributed 50 guineas. During the year sixty-five applications for grants have been received and investigated, and assistance

has been rendered in sixty cases. In addition to the foregoing (which do not include the Society's ten pensioners) there are a number of applications at present before the Council to be dealt with before Christmas. Altogether the sum of £842 has been distributed in relief this year. Donations and subscriptions will be received and gratefully acknowledged by the officials of the Society.

RECENT DONATIONS AND NEW ANNUAL SUBSCRIPTIONS (1905).

	Donations			Subscriptions		
	£	s.	d.	£	s.	d.
A Birmingham Architect	1	0	0	—	—	—
Adams: Maurice B.	—	—	—	1	1	0
Ashworth: Charles H.	—	—	—	1	0	0
Aston: Mrs. K.	0	1	0	—	—	—
Baldwin: F.	—	—	—	1	1	0
Ball: Charles W.	—	—	—	1	1	0
Bath: F.	0	10	6	—	—	—
Beckett: B. T.	—	—	—	0	10	0
Benwell: J. W.	1	0	0	—	—	—
*Berney: Henry	—	—	—	0	10	6
†Boswick: Harry	—	—	—	4	4	0
†Blanc: Hippolyte J., R.S.A.	2	2	0	—	—	—
Bodley: G. F., R.A.	—	—	—	2	2	0
Boehmer: Edward	—	—	—	5	5	0
Bradshaw & Gass	—	—	—	2	2	0
Brewer: C. G.	2	2	0	—	—	—
Brierley: W. W.	2	2	0	1	1	0
†Bromley: A. N.	—	—	—	2	2	0
Bruton: E. H.	1	1	0	1	1	0
Burke-Downing: H. D.	—	—	—	1	1	0
Carter: T. B.	—	—	—	0	10	6
Chandle: Walter H.	—	—	—	1	1	0
Chisholm: R. F.	—	—	—	1	1	0
Chubb: John B.	1	1	0	—	—	—
Clarkson: S. Eliot	—	—	—	1	1	0
Clough: H. H.	—	—	—	1	1	0
†Cobb: E. F.	—	—	—	0	10	6
*Collett: T. E.	26	5	0	—	—	—
Collins: M. E.	1	1	0	1	1	0
Collins: N.	—	—	—	0	10	6
Cronk: Egbert	—	—	—	1	1	0
Dannatt: Percy B.	—	—	—	0	10	6
†Davies: David (Llanely)	—	—	—	1	1	0
Davies: David (Henllan)	0	5	0	—	—	—
Dawber: E. Guy	—	—	—	1	1	0
Deas: F. W.	—	—	—	2	2	0
Douglas & Minshall	2	2	0	—	—	—
Dunn: W. Newton	—	—	—	1	1	0
†Edie: Colonel R. W., C.B.	21	0	0	—	—	—
Elliott: Thomas	—	—	—	1	1	0
†Emden: Walter	25	0	0	—	—	—
†Emerson: Sir William	5	0	0	—	—	—
†Evans & Son	3	2	0	—	—	—
Favarger: Henri, F.S.A.	—	—	—	1	1	0
Ford: Lawton B.	2	2	0	—	—	—
Freeman: Frank	1	1	0	—	—	—
G.: A. A.	—	—	—	0	10	0
*Gandy, James	—	—	—	1	1	0
Gibson: Daniel	—	—	—	0	10	6
Gilford: Herbert	—	—	—	1	0	0
†Glover: William	500	0	0	—	—	—
Goodsir: John P.	—	—	—	0	10	0
†Grant: W. Leonard	1	1	0	—	—	—
Green: W. Curtis Green	—	—	—	1	1	0
Greenop: Edw.	1	1	0	—	—	—
Gunnis: J. W.	—	—	—	1	1	0
Gutteridge: A. F.	—	—	—	2	2	0
Haigh & Thompson	—	—	—	1	1	0
†Hall: Edwin T.	25	0	0	—	—	—

	Donations			Subscriptions				Donations			Subscriptions		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
*Higginbotham: F. W.	—	—	—	0	10	0	†Society of Architects	52	10	0	—	—	—
Hill: Elliot F.	—	—	—	1	1	0	*Spiers: Walter L.	5	0	0	—	—	—
Hill: Oswald C.	1	0	0	—	—	—	Spiers: Jos.	—	—	—	1	1	0
*Hodson: Wm.	—	—	—	1	1	0	†Stewart: Wm.	—	—	—	2	2	0
Holland: T. J.	0	8	0	—	—	—	*Sturdy: F. J.	—	—	—	1	1	0
Homan & Rodgers	5	5	0	—	—	—	Taaker: H. Francis	—	—	—	1	1	0
†Hooper: T. R.	1	1	0	—	—	—	Taylor: Andrew T.	25	0	0	—	—	—
Horsfield: J. Nixon	—	—	—	1	1	0	†Taylor: Sir John	2	2	0	—	—	—
Horsley: Gerald C.	2	2	0	—	—	—	Thomas: Walter W.	10	10	0	—	—	—
*House: J.	—	—	—	1	1	0	†Tubbs: Percy B.	2	2	0	—	—	—
Howell: W. Roland	—	—	—	1	1	0	†Tylers & Bricklayers' Company	5	5	0	—	—	—
*Hudson: John	—	—	—	1	1	0	Type: Marcus O.	—	—	—	1	1	0
†Hunt: F. W.	5	5	0	—	—	—	Underwood: Edgar S.	—	—	—	1	1	0
Hunter: James K.	—	—	—	1	1	0	*Vacher: Sydney	—	—	—	2	2	0
Jackson: E. A.	5	5	0	—	—	—	Vallance: B. Frank	—	—	—	1	1	0
Jacobs: B. S.	2	2	0	1	1	0	Walker: W. T.	3	3	0	1	1	0
Joass: W. C.	—	—	—	1	0	0	Warren: Edw.	—	—	—	1	1	0
Kemp: W. J.	—	—	—	1	1	0	Waterhouse: P. Leslie	—	—	—	2	2	0
†Kempster: J.	—	—	—	0	10	0	*Webb: Sir Aston, R.A.	25	0	0	1	1	0
Lees: E. W.	—	—	—	0	10	6	*West: F.	5	5	0	—	—	—
†Lemon: James	—	—	—	1	1	0	Westwick: Louis A.	—	—	—	1	1	0
Lewes: C. H. F.	—	—	—	1	1	0	White: William Henry	5	5	0	1	1	0
Liddington: J. H.	—	—	—	2	2	0	Whitelegg & Whittaker	—	—	—	1	1	0
Löhr: C. H.	1	1	0	—	—	—	*Whitley: C. T.	5	0	0	—	—	—
Lucas: J. Archibald	—	—	—	0	10	6	Wigfull: J. B.	—	—	—	1	1	0
McCauley: T. H.	—	—	—	1	1	0	†Williams: F. H.	—	—	—	1	1	0
Macintosh: John	—	—	—	0	5	0	Williams: Robert	—	—	—	0	10	6
McKellar: James C.	—	—	—	2	2	0	Withers: J. B. Mitchell	—	—	—	1	1	0
*Manchester Architectural Society	1	0	0	—	—	—	Wood: Joseph F.	—	—	—	2	2	0
Mawson: T. H.	—	—	—	1	1	0	†Woodward: Wm.	26	5	0	—	—	—
Mileham: Chas. H. M.	—	—	—	1	1	0	Wyborn: S. M.	0	10	6	—	—	—
Milne: W. O.	1	1	0	—	—	—	*York Architectural Society	1	1	0	—	—	—
*Minty: E. A.	5	0	0	—	—	—							
Mitchell: Arnold	2	2	0	—	—	—							
Moore: Albert W.	—	—	—	2	2	0							
Morley: W. J.	—	—	—	1	1	0							
Morris: Percy	—	—	—	1	1	0							
Mundy: Thos. E.	—	—	—	1	1	0							
Munford: W. D. T.	—	—	—	1	1	0							
Myers: A. R.	—	—	—	0	5	0							
Myers: J.	—	—	—	1	1	0							
†Nash: W. Hilton	5	5	0	—	—	—							
Newell Bros.	2	2	0	—	—	—							
†Nottingham Architectural Society	5	5	0	—	—	—							
Oldrieve: W. T.	—	—	—	1	1	0							
Oliver, Leeson & Wood	2	2	0	—	—	—							
Orpen: R. Caulfield	—	—	—	1	1	0							
Oswell: A. E. Lloyd	—	—	—	1	1	0							
Palms: George H.	—	—	—	1	1	0							
†Parker, W. J.	—	—	—	1	1	0							
Parkinson: C. E. L.	—	—	—	1	1	0							
Patrick: George	—	—	—	1	1	0							
Pick: S. Perkins	5	5	0	—	—	—							
Poole: W. C.	—	—	—	1	1	0							
*Porter: Horatio	—	—	—	2	2	0							
Prentice: A. N.	3	3	0	—	—	—							
Ricardo: Halsey	2	2	0	—	—	—							
*Roberts: Alfred	—	—	—	1	1	0							
Robins: S. D.	5	5	0	—	—	—							
Ross: Clarence R.	—	—	—	0	5	0							
†Roumieu: R. St. Aubyn	1	12	0	—	—	—							
†Ryan-Tenison: A. H.	—	—	—	1	1	0							
Salmon: W. Forrest	—	—	—	1	1	0							
Sawday: Albert E.	—	—	—	1	1	0							
Scott: Andrew R.	1	1	0	—	—	—							
†Scrymgeour: W. H.	20	0	0	—	—	—							
Sedding: E.	—	—	—	0	10	0							
Seward: E.	1	1	0	—	—	—							
Sharman & Archer	—	—	—	0	10	6							
Skipper: G.	2	2	0	1	1	0							
†Snell: Alfred Saxon	30	0	0	—	—	—							
†Snell: H.	—	—	—	1	1	0							

* Denotes contributions received prior to the issue of the appeal.

† Denotes contributions in addition to donations or subscriptions formerly given.

REVIEWS.

THE LAW OF LIGHT.

The Law of Light and Air. By Alfred F. Hudson and Arnold Inman, Barristers-at-Law. Second Edition, 8vo. Lond. 1905. Price 7s. 6d. [Estates Gazette, Ltd., 6 St. Bride Street, E.C.; Sweet & Maxwell, 3 Chancery Lane.]

Seven years have elapsed since Messrs. Hudson and Inman published their useful book on *The Law of Light and Air*. We now welcome the second edition of the work, which is just published, and can be obtained from *The Estates Gazette* Office in St. Bride Street. Although seven years is no length of time for a text-book to be of real service, we think the authors have done well to bring their clearly written book up to date; and the necessity for this has largely arisen from the case of *Colls v. The Home and Colonial Stores* having been tried recently, first in the Chancery Court, then in the Appeal Court, and finally in the House of Lords.

It is many years since a "Light and Air" action was taken to our highest Court, and this being a typical case, and one which arises daily in

every town where rebuilding is taking place, all interested in building matters should study it fully. This Messrs. Hudson and Inman now make possible. A short clear statement of the law as it now stands is to be found on page 58 of the book, i.e. Does the obstruction amount to a nuisance? Also on pages 70 and 71 what constitutes a nuisance is fully set forth. In an action for "Light and Air" it has now to be clearly distinguished between a partial inconvenience and a real injury to the plaintiff in the enjoyment of his premises, which seems to a layman to be the common-sense view of the matter as it is now the legal one upon which they have to act. The book contains a note also of the interesting case of *Warren v. Brown*, also of *White v. Harrow*, and as far as one can see has been thoroughly revised throughout.

One of the most valuable features the authors give us is a most comprehensive Table of Cases, which makes a reference to them very easy. All interested in the Law of Light and Air, should possess a copy of the book.

H. CHATFIELD CLARKE.

MINUTES. III.

At the Third General Meeting (Business and Ordinary) of the Session 1905-06, held Monday, 4th December 1905, at 8 p.m.—Present: Mr. Henry T. Hate, *Vice-President*, in the Chair, 28 Fellows (including 8 members of the Council) and 25 Associates, the Minutes of the meeting held 20th November 1905 (p. 60) were taken as read and signed as correct.

The Hon. Secretary announced the decease of Colonel John Eaton, C.B., *Fellow*, elected 1892.

The Hon. Secretary called attention to the list of recent donations to the Library (see *Supplement*), and a vote of thanks was passed to the donors.

The Secretary announced that by a resolution of the Council under By-law 20 the following gentlemen had ceased to be members of the Institute—viz. John Mansfield Ferguson, Harry May, Donald Campbell Marks, and Laurence Youngs.

The Secretary announced the results of the Preliminary, Intermediate, Final, and Special Examinations held by the Institute in November.

The following candidates for membership were elected by show of hands under By-law 9:—

AS FELLOWS (16).

HERBERT JOHN CHARLES CORDEAUX (East London, Cape Colony).

GEORGE ARTHUR HAMILTON DICKSON [A. 1888] (Diocesan Surveyor of Pretoria, South Africa).

HORACE JOHN HELSDON [A. 1892].

ALEXANDER ROBERT HENNELL [*Title Prizeman* 1894, A. 1895].

JOHN NIXON HORSFIELD, F.S.I.

WILLIAM GEORGE HUNT.

HARRY CHAMBERS KENT, M.A. Sydney University (Sydney, New South Wales).

ALBERT WALTER MOORE.

GEORGE ERNEST NIELD [A. 1894].

JOSEPH OWEN, County Architect for Anglesey (North Wales).

ABRITAGE RIGBY (Douglas, Isle of Man).

PERCY ROBINSON [*Qualified for Associateship* 1905] (Leeds).

FRED BOWNTREE.

EDGAR SEPTON UNDERWOOD.

ADAM FRANCIS WATSON [A. 1870] (Sheffield).

ERNEST AUGUSTUS ECKETT WOODROW [A. 1831].

AS ASSOCIATES (20).*

LIONEL NEWMAN BARRETT [*Special Examination*].
ARTHUR ALFRED GARDER [*Probationer* 1898, *Student* 1904].

JAMES CHARLES COOK [*Qualified Special Examination* 1904] (Bloemfontein, S. Africa).

OTTO SIGISMUND DOLA, [*Special Examination*] (Brighton).

GEORGE LEONARD ELKINGTON [*Probationer* 1898, *Student* 1901].

GEORGE FREDERICK ELY [*Probationer* 1898, *Student* 1899] (Liverpool).

CHARLES LIONEL FLEMING-WILLIAMS [*Probationer* 1897, *Student* 1899].

JOHN LEIGHTON FOURACRE [*Probationer* 1898, *Student* 1902] (Plymouth).

LIONEL UPPERTON GRACE [*Probationer* 1897, *Student* 1898, *Grizell Prizeman* 1902].

WILLIAM COURTENAY LE MAITRE [*Probationer* 1902, *Student* 1903].

JOHN HATTON MARKHAM [*Probationer* 1900, *Student* 1903].

LESLIE THOMAS MOORE [*Probationer* 1899, *Student* 1903] (Great Yarmouth).

VAL MYER [*Probationer* 1900, *Student* 1902].

JAMES JOHN SYDNEY NAYLOR [*Probationer* 1897, *Student* 1900].

HARRY PRINCE [*Probationer* 1897, *Student* 1900].

EDWARD REID [*Special Examination*] (Sunderland).

SYDNEY SEARLE [*Probationer* 1899, *Student* 1903].

NOEL THOMAS [*Probationer* 1897, *Student* 1898] (Plymouth).

JOHN WILSON WALKER [*Probationer* 1897, *Student* 1902].

WILLIAM ERNEST WATSON [*Probationer* 1900, *Student* 1902].

Mr. Horace T. Bonner [A.], in accordance with notice, moved, "That neither the President nor the Council, nor either of them, shall approach the promoters of any competition with the object of their nominating competitors; nor shall the President or Council appoint any professional Assessor in any competition, unless requested to do so by the promoters of such competition." The resolution was seconded by Mr. G. A. T. Middleton [A.]. The Chairman explained that there was nothing in the resolution which was contrary to the usual practice of the Institute: that neither the President nor the Council had in any instance approached promoters with the object of nominating competitors, nor had they ever appointed a professional assessor unless invited to do so by promoters. It was further pointed out by members present that to pass such a resolution would suggest improper action on the part of the President and Council. Mr. Bonner then withdrew the resolution.

Some notes on the London Building Acts Amendment Act 1905, prepared by Mr. Wm. Woodward [F.] at the request of the President, having been read by the author, the subject was further treated by Mr. J. Douglass Mathews [F.] and others. A vote of thanks to Messrs. Woodward and Douglass Mathews was passed by acclamation.

The proceedings closed, and the Meeting separated at 10 p.m.

* Except where otherwise indicated, the newly elected Associates passed the Qualifying Examination last June.



STAINED GLASS.

By ALEXANDER GASCOYNE and ARTHUR J. DIX.

Read before the Royal Institute of British Architects, Monday, 18th December 1905.

I. By ALEXANDER GASCOYNE.

I DO not propose to treat of the history of stained glass, of which you have very probably a better knowledge than I have myself. Our concern is to master the principles on which the success of the famous old examples depends, and apply them to modern needs. If anyone is interested in the historical development of stained glass, he cannot do better than read Westlake's *History of Painted Glass*. Neither shall I touch on the technical processes, as anyone can obtain a knowledge of those from various recent works on the subject.

The best examples of old stained glass that have survived the vandalism of later times show various possible methods of treatment, each of which is admirably suitable for the purpose for which it was used. Without attempting to copy deliberately, we can learn many lessons from the work that remains; and if only we can catch the spirit and feeling that inspired these early glaziers, and work it into modern requirements, we shall be progressing towards perfect work.

Where a light treatment is required, what better model can we desire than the beautiful arrangement of our best fifteenth-century glass—*e.g.* York Minster, and Morley Church in Derbyshire? The windows in the north of the nave of Cologne Cathedral also afford excellent examples.

About two-thirds of each of these windows are in whites, and the remaining one-third deep pieces of rich colour, which, seen in contrast to the other glass, gives a brilliance which can scarcely be described. A certain amount of yellow stain introduced gives the necessary warmth without spoiling the delicate tones of the white parts.

Whether or not glass can be manufactured equal to the old glass is a matter of opinion ; but by waiting and picking out the choicest sheets at the makers', and carefully selecting these for your work, results can be obtained which will favourably compare with the early windows.

It is the inequalities, variations of thickness and colours, and accidental markings which give the depth and brilliancy to the glass, and upon their judicious employment depends the success of the work. Any designer who superintends his work, if he be worthy of the name, will exercise the greatest care in choosing materials, although much has been said to the contrary ; and you can rely upon him using the right glass in the proper place, independent of its cost. The cost of material is but a small proportion of the total in a painted window, even as the cost of an artist's colours is a mere bagatelle compared with the value of his time.

Does an artist ask his patrons to watch him use a guinea tube of blue, or say his painting must be good because he spent so much on paint ? No ; he simply uses the colours he needs, as we ourselves do in making choice of our glass.

The treatment which suits one window does not necessarily suit another, nor need we continually design windows with architectural canopies and bases because they are used in the old examples. Beautiful results can be obtained by giving a free rendering of the early principles, and by designing foliage or ornament to take the place of canopies and bases, without losing the feeling or character of the old glass.

There are many positions in both domestic and ecclesiastical buildings where the primary object of stained glass is to give a brilliant colour scheme. No one who has seen the beautiful old windows by Ghiberti in Florence can have failed to admire their wonderful colour schemes, and for positions in large buildings where colour is required no better study can be found than these windows. They are practically designed for one gorgeous colour effect. The study of these windows demonstrates what can be done in this direction. Unfortunately, it is not always possible to get the opportunity to introduce so much colour, nor would it always be desirable. But windows are constantly being filled where a treatment upon these lines would have been more successful than the one adopted. We have grand examples to follow if only we will be guided by them, and attempt to give a modern rendering of the old work, which will stamp our glass with the individuality of the present age without being a slavish, and often but a poor, copy of some of the various old styles (so called) in stained glass.

It is immaterial what particular style is adopted providing we allow our originality to develop that style, and produce stained glass which for charm of design and colour will adapt itself to the character of the building.

The assistance capable architects can give in suggestions for the general schemes of windows cannot be over-estimated, and their co-operation has produced in many instances most successful results. When the architectural profession as a whole demands really good work, and encourages designers who are known to have the interests of their craft at heart, then I can assure you there will be no lack of beautiful work. I can safely say that any improvement which has taken place in stained glass is in a great measure due to those architects who fully appreciate any endeavour towards raising the quality of work.

Stained glass is one of the most permanent forms of decoration, and unless it can be executed in the best way ought not to be done at all ; for badly executed work is only a lasting disgrace to our craft, and merely an example of the bad influence of the commercial tendency of the times. The modern soulless commercial man asks for what is cheapest, not what is best.



MEMORIAL WINDOW TO THE LATE W. L. BARKINSON, ESQ., SOUTH AISLE, STURBURY, DORSET.
DESIGNED BY ALEXANDER GASCOYNE.

One point I should like to impress upon you in designing stained glass for churches is, that the windows have a double mission.

They should form a beautiful decoration and be devotional in feeling. The figures intro-

duced should be an aid, not a hindrance, to devotion—to those people, at least, who are capable of such feeling. Arouse the critical faculty, and no devotion is possible.

Many of the windows of our cathedrals and churches are a positive distraction either to the worshipper with artistic instincts or to the devout churchman who has a knowledge of the details of ritual.

To design good windows much careful consideration is necessary; and I cannot imagine a man doing really good work in this direction who is not personally in sympathy with the objects of the design on which he is engaged. It is to the unsympathetic artist that many of the errors to be found in various windows are attributed. To cite examples.

Bishops are depicted holding their pastoral staff in the right hand and blessing with their left. Albs are made every colour of the rainbow to suit the convenience of the designer, and the general ignorance displayed upon many church matters robs the window of all meaning.

In a window in Lincoln Cathedral, to give another case in point, a bishop is represented receiving the pax, kneeling with his mitre on, when he should be shown standing with his mitre off.

To those indifferent to ritual all this is of little importance; but I maintain that it is of the greatest importance, for if work is worth doing at all it is worth doing correctly.

To design a church window should be a work of love, and the artist will not be satisfied unless the symbolism truly interprets the teaching.

People are sometimes apt to consider the production of stained glass to be a lucrative source of income. Professor Aitchison, R.A., lecturing in connection with the Royal Academy in 1903, said: "The master glazier was once as well paid, and consequently as well thought of, as a master builder or architect; and he is probably much better paid now than the architect." They fail to remember the many risks to which the glass is liable before the process is completed, and how much provision must be made for the vagaries of the kiln. For instance, from some unknown cause, work that has taken weeks of labour



STAINED-GLASS WINDOW, LADY CHAPEL, ST. MARY'S,
LINCOLN.
DESIGNED BY ALEXANDER GARCOTTE.

may in its final firing crack, and be rendered valueless; this, too, owing to no carelessness upon the part of the kilnman. Perhaps it is due to an imperceptible flaw in the material.

Domestic glass is now so largely used by architects that few new buildings are without some specimen of either stained glass or ornamental leaded glazing.

Stained glass for modern houses should be designed to form part of the decorative scheme of the room in which it is to be fixed. Often little or no information is given to a designer as to the character of the building, or of the architect's intentions concerning his interior treatment of decoration. It is always far more satisfactory to see the building before preparing designs if important stained glass is required. The aspect of the openings proposed to be filled with glass is a point too often forgotten when asking for sketches.

Rich colour schemes should be used with the greatest care, as what one can use, for example, in an ingle-nook would not perhaps be in good taste in another position. Where a different treatment is required, then should separate designs be prepared for each window. Simple treatment in white glass has been greatly used by some architects with most satisfactory results, harmonising admirably with any style of decoration.

The importance of massing the design in domestic ornamental glass cannot be over-estimated, for the success of the work undoubtedly depends upon it.

Striving after eccentricity in design has led to the execution of work of which one soon grows heartily tired, and although the New Art movement may have aroused an interest in Art matters, yet the extremes to which some designers have gone in this direction are calculated to excite the utmost ridicule.

Architects sometimes desire to see the working drawings; but what they really mean is the preparation of a full-size detail showing the various thicknesses of the leads to be used. This is not a working drawing, and we have to prepare one afterwards, which is simply a line drawing of the various shapes of the glass to guide the cutter in cutting the glass, and afterwards the glazier to piece the glass together. The full-size drawing is therefore of no use from a practical point of view, although it may serve to enable the architect to form an idea as to the general effect of the leads. I would emphasise the fact that unless every care is taken in making the cut-line from this detail all the architects' trouble may be lost.

To further illustrate my meaning, I have brought some cartoons for ecclesiastical work with two windows to show the relation of cartoon to the actual work.

I have also prepared some drawings suitable for domestic purposes, figure subjects with simple backgrounds, so necessary where light is needed, and others introducing armorial subjects.

Heraldry, upon the lines of the fourteenth and fifteenth centuries, always arouses the enthusiasm of the glass painter; it gives such wide scope for drawing, and the colours never clash with any scheme of decoration.

Much can be said upon the artistic treatment of leaded glazing, but that does not come strictly within the confines of a short paper on Stained Glass.

II. By ARTHUR J. DIX.

IT seems perhaps unnecessary to explain, in commencing this Paper on stained glass, the difference between that and painted glass. I am sure all present thoroughly appreciate that difference—when that a stained-glass window may be composed of coloured glass painted upon or not, and held together by lead-work; and a painted-glass window is produced by painting or enamelling upon the glass, and not dependent upon the lead-work to assist in forming the design. There are two kinds of stained or coloured glass—namely, “pot metal,” in which the colour goes through the glass, the ingredients being mixed in the pot—hence its name—and “flashed” glass, which is made from a pure white or tinted “metal,” and coated or flashed with a film of coloured glass. This, then, is stained glass, and a window filled with such material irrespective of colour, design or no design, must therefore literally be a stained-glass window.

But what I have to deal with to-night is the making of what is generally understood by a stained-glass window—that is, the using of this material in a way that shall interest and charm by a variety of design and combinations of colour in which it may be employed. It is not my intention to refer to the use made of such design in the past, or to dwell upon that of the present; suffice it to say that a design for a stained-glass window may be in any medium and upon whatever material that most commends itself to the artist, even painted on glass in transparent colours, or of small pieces of the actual coloured glass itself put together like a mosaic. Nor is it always necessary that a design should be made at all; the cartoon may be drawn in the first instance, and a colour scheme for guidance in choosing the glass may be a coloured photograph of the cartoon, or a sketch to scale of the lead-work, coloured in, perfecting the scheme already in the mind and suggested by a possible rough sketch made before starting the cartoon. In my opinion the highly finished competitive design for a stained-glass window is a mistake, a delusion, a snare. An attractive design is by no means a guarantee of a good window. The capabilities of a maker of stained glass should be judged by his finished work and not by a design.

One very important point to observe is the architectural fitness of the design. By this I do not mean the adapting or copying some style or period of glass which corresponds with the style of window to be filled, but the suitability as regards proportion, not only as a whole, but in detail. It should always be treated in such a way that will keep the window subservient to the architecture, about which there need be no fear if a strict adherence be observed to the natural limitation of the material. Briefly, the window is a flat surface, and should not be decorated in any way that would suggest that it is otherwise. A bold, straightforward acceptance rather than evasion of the necessity of leads and substantial supporting bars, making them, if not the most important, a great feature in the element of design, would help to ensure the necessary decorative result.

The position and size of window should be thoroughly considered, as much detail is often thrown away and a broadness of effect missed by over-elaborating a window which is only seen from a distance; also the amount of light one may safely exclude without over-darkening the interior of the building should be considered. Windows are primarily intended to admit light; therefore in most cases stained-glass windows should perform this duty. Nevertheless, happy is he who finds he is called upon to fill a window in a large church which is more than amply provided with light; and this restriction being removed, he may indulge himself to the utmost in the glories and fascination of colour.



FIGURES OF SAINTS FOR A STAINED-GLASS WINDOW BY MR. H. ANSING BELL.
(Lower part of centre drawing unfinished.)

The cartoon being ready, the first step to take is to make an outline drawing representing the shapes of the pieces of glass to be cut, which is obtained by placing glazed linen over the drawing and tracing a clear black line, indicating the thickness of the heart of the lead eventually used in putting the window together: this is called a "cut-line," as from it the glass is cut. While making this skeleton drawing, opportunity should be taken to alter and simplify the shapes where necessary for greater ease in cutting.

In starting to choose the glass it should be borne in mind that colour is the most important thing in a window; in fact, one poor in design but of colour well chosen and modestly painted may be interesting, and even beautiful. On the contrary, a window, however well designed, and no matter how well painted (the more carefully the worse), but with bad colouring, is intolerable; so one may safely say that at this period is reached the most interesting and perhaps absorbing stage in the making of a stained-glass window.

The selecting of suitable glass is no easy task, for if shirked and even one makeshift piece of colour allowed to pass, that piece, unless ejected, haunts one to the end, till at last it has to be cast aside, perhaps when time has been expended upon it in painting. More may be done than may generally be thought with a scheme of colour, which, although apparently satisfactory, still does not quite please, by introducing glasses of varying textures and density. Thus a bright, somewhat clear glass of exactly the colour required, and yet too powerful for the others, if replaced by one with irregularities of surface and of a horny texture, might be found to be more concordant. For instance, such a glass as that beautiful cool bright green (an intensified sea-green), if smooth and lacking in quality, is almost useless; also the colour known as "gold pink"—a flashed glass, a production of the sixteenth century, which therefore did not occur in early work when glass was imperfectly made—if on a base of smooth white glass, is most objectionable, but if on a varied yellowish tint of a certain density, becomes (although a colour to be sparingly used) a glass of great beauty. Softer tones of green, and also ruby, velvety in appearance, may be found to gain greater value arranged with others differing in quality. Again, tones of white often admit too much light, tempting one to alter their lack of density by means of acid, suggested by the somewhat milky appearance which exists in old windows. As any reliance upon the alteration of tones by subduing afterwards when painting being seldom satisfactory, no time is lost in searching for the exact quality of glass of the colour required, so that each piece may be in correct relationship one to the other. No attempt should be made to paint the details of the design, which, it should be understood, only go to finish the work practically completed (at any rate as regards the main colouring), until the glass is finally deemed to be satisfactorily chosen; in fact, the aim of the artist from first to last should be, to quote the words of Ruskin, "Paint with glass, not on glass," and as far as possible consider it no time wasted which is spent in bringing the glass as near to the point of effect required before starting the painting.

There is a practice I wish to refer to which has now been in vogue for some few years; that is, of superimposing pieces of glass held together in one lead in two or even three layers—called "plating"—brought about by a desire on the part of the colourist for tones and qualities of glass unable to be provided him by the maker; and also to make it possible to use a glass, often most delightful, but of such a nature that to fire it would destroy its natural beauty. So a piece of white glass is painted upon instead, and leaded up with the coloured piece. Although no doubt these methods are quite legitimate, I do not feel they are altogether satisfactory. There is perhaps no artist or craftsman worthy of the name, who, if asked, would not tell you that of course he hoped his work would in years to come, in the natural event of its requiring to be remade, be considered worthy; then why use such methods in



CARTOONS FOR STAINED-GLASS WINDOWS BY MR. R. AYSING BELL.

obtaining effects that would render it practically impossible for such to be done by any other than the maker? Picture to yourself the hopeless muddle in which the glazier of two centuries hence would become involved in trying to put together a window made up of pieces of glass leaded together in layers of two or three thicknesses which required releading, even if none were missing or even broken. It is nevertheless occasionally a useful expedient, but one which in my opinion should not be resorted to until every resource has been exhausted to obtain the required colour or tone.

As regards the different opinions as to the best tint of white glass, I do not think one can go wrong in using one of a tint often found in early glass; I mean of a cool greenish hue. One so often sees stained-glass windows by different makers sometimes side by side in cathedral or church, even in company with old examples, which jar by their great contrast of tone. I could give instances where the pervading tone of one would be a warm yellowish green, and the other of a pure crystal white (which seldom looks silvery), both perhaps beautiful in themselves if not seen together. In almost all the old glass that I have seen, the whites seem cool without being cold, with the beautiful mellow tone imparted by age, which tells for warmth, but is not sickly; the light which comes from such windows is so soft and pure, it in no way destroys the beautiful grey gloom which adds such a charm to a big interior; the yellowish glass entirely destroys this, lighting the architecture up with a sickly hue which is most unsympathetic.

Although there are many ways of going to work in painting glass I will content myself with explaining one. Upon a sheet of plate glass (which fits the frame of the painter's easel) are traced off with fine lines all the important details from the cartoon of that section of the light to be painted; the cartoon is then removed from under the glass, and in its place is put the cut-line, taking care to have it in the exact position of the cartoon just removed. All the different pieces of glass are then placed together in their position on the plate by the guidance of the outline beneath, a process resembling the putting together of a Chinese puzzle. Each piece of glass is then made fast to the plate by dropping small spots of melted wax at intervals round the edge of each. It may now be raised to a vertical position on the easel-frame, which by means of counterbalancing weights can be raised up and down as required.

The artist has now the opportunity of seeing for the first time the glass that he has chosen, in a position against the light, as it will be in the window when finished; and now before any of the coloured glass is painted is the time to make any alteration desired. This opportunity to view the glass before painting is of the utmost importance, because if the corrections are not made now before the work is painted, any offending pieces will be more reluctantly discarded at a later period. I mention this more particularly, as it is the practice of a great many workers never to see these pieces of glass in their relative position until the window is leaded up; the flesh is painted by one, the draperies by another, the background and details perhaps by a third. They say that through continued experience they know exactly the effect they want and how to get it, and never see the result until it is fired and leaded up. Now it is almost impossible for any work of true merit to be produced in this manner: there are very few, I should imagine, who can be so far-seeing as to be able to judge of a result in this way, except, of course, they are content to repeat some scheme of colouring which they have already frequently done.

The whole making of a stained-glass window should be one of elimination, adding to, and correction, not only in the initial stage of the glass in its raw state, but as the work proceeds, altering the work to obtain the effect aimed at as it progresses. In the process of painting and in fact at no period should anything be taken for granted; but viewed in a perpendicular



CARTOONS FOR WINDOW BY MR. H. ARNING HILL.

position, and from as great a distance in the studio as possible, and no advance made until at each and every stage nothing suggests itself that could possibly be improved upon.

That any system should be adopted that would obviate this apparently waste-of-time way of going to work proves the fact that the worker is repeating in the dark one or more formulas (at which he has arrived and satisfied himself) over and over again; from such method nothing but a deadly monotony must result. I maintain that when the plain glass is offered up in position and found to be unsatisfactory is the very point of its salvation, because it would bring into activity the artist's keener sense of colour demanded by the problem to solve, and the opportunity given would possibly result in some happy combination as regards colour, tone, and balance which it would be impossible to obtain otherwise; or one note of colour alone might be found to bring into harmony and correct an uninteresting piece of colouring.

I will now assume the glass finally selected is as nearly perfect as possible; the painter then—by the fine lines previously mentioned, just visible through the coloured pieces of glass, and from the cartoon hung at a convenient distance—proceeds to reproduce all that is required in outline. At this point it becomes necessary to decide whether the outline shall be fired on to the glass before proceeding with the painting or not. Much depends on the size and height it is intended to occupy; it is, however, not imperative. I prefer not; the outline can be more easily modified, strengthening or removing where necessary as the process of shading proceeds. Over the glass which is outlined a "matt" of colour is worked and manipulated in such a way that when rubbed by the hand and by using various brushes, mostly hog-hair, technically called "scrubs," the colour is carefully brushed away where high lights are required, leaving it more or less as applied, to represent the shadows. With skill acquired by practice this process may be repeated two or three times, until the depth in the modelling required is obtained.

If, now that the shading is finished, and the glass in its altered appearance does not suggest any alteration in colour, either lighter or darker, it is ready for the kiln. The plate is removed from the easel, and the pieces of glass by gently tapping are detached and carefully placed in trays to await firing. I should perhaps have mentioned before something about the pigment used for painting on the glass, which should be thoroughly understood to mean simply the adding of non-transparent enamel by way of shading to modify the colour and to produce those forms in the design unable to be obtained by the leads. The pigments are in the form of powders, and are obtained from the oxides of various minerals—the most permanent and more generally in use—of iron; these colours, upon being fired, vitrify and become part and parcel of the surface of the glass. The mediums used in working these are gum or sugar, with water, and oil of turpentine or of tar when painting in oil.

After the work has been fired for the paint, it will be necessary to fire it a second time for the yellow stain, as the heat required for the former would be too great to produce the clear rich and pale yellows so characteristic of fourteenth and fifteenth century stained glass. This yellow is obtained by oxide of silver, and is applied to the back of the glass, where, it has been previously decided in working out the scheme of colour, should be yellow produced in this way. In this second firing the opportunity may be taken of touching up any defects or scratches that may have occurred, and any slight strengthening of the shading where it may appear desirable.

The application of the silver is called "staining," because it actually stains the glass below the surface, and whereas the pigment used for shading simply becomes more or less attached to the surface, the chemical action of the former literally alters the colour of the glass, and can only be removed by the application of fluoric acid, which bites or eats away the glass. I may say here that this acid is used in lightening or etching out patterns on flashed glasses,

previously referred to, in which the colouring is only a thin film upon white glass which can easily be removed. In old stained glass, before the use of acid, this result was obtained by abrasion, or grinding away of the colour, leaving the pure white or any tint upon which it is flashed.

The glass fired now for the second time is ready to be leaded up; the cut-line placed upon the glazing table, the pieces of glass sorted out, put together in their position upon it, is ready for the glazier.

The lead used should be pure, and melted at a low temperature, and all dross carefully removed before making the castings from which the lengths of glazing lead called "calms" are made. These are in section like the letter H, and are of different sizes, much effect being obtained by judiciously varying these sizes in bringing into prominence certain features which it is wished to emphasize. The glazier works these leads round each piece of glass, keeping the whole tightly together as he goes along, following the cut-line, eventually soldering the joints, which connects the whole.

The glass with all its lead lines added now presents quite a different appearance, and more than likely may still require alteration, which should be made previously to the soldering of the joints on the back of the light, as the pieces are more easily removed and reinserted at this stage. There is nothing now left to be done except "cementing" and "banding," the former the filling in of all the interstices between lead and glass with putty, or a cement made from whiting, boiled oil, red lead, and "turps" darkened with lamp black, rubbed in with a brush, making the window watertight; and the latter that of soldering on pieces of copper wire to fasten the lights to the metal bars when fixing into the stonework.

It has possibly struck others as it often has myself on reading a report of the unveiling of a stained-glass window that all the windows ever done are either handsome or beautiful; sometimes both: the former may be true, but one has frequent evidence that the latter is open to doubt. One sees many that are refined and dignified both in design and in colour, but there are others—not things of beauty. I have often wondered that some one having to gaze continually on such has not been goaded into starting a society for the prevention of stained glass being put in churches. Better the plain diamond panes, often beautiful tones, mellowed by age, than discordant arrangements of coloured glass.

In conclusion, with regard to the history of stained glass, I have neither time nor had I intention of saying anything. May I, however, refer those who wish to make a study of this to the works of Winston, also to Mr. Westlake's *History of Design in Painted Glass*, a life-work of patience compiled with such loving care, inexhaustibly rich in facts and illustrations—the classic on stained glass. To *Windows* by Mr. Lewis F. Day, a delightful work; I will quote its prefatory note: "To those who know nothing of stained glass; to those who know something and want to know more; to those who know all about it, and yet may care to know what another may have to say upon the subject, I dedicate this book." And Mr. Whall's most interesting contribution to the "Artistic Craft Series" I can recommend with nothing but praise to any who wish to become more minutely intimate with the details of this craft.

DISCUSSION OF THE FOREGOING PAPER.

The President, Mr. JOHN BELCHER, A.R.A., in the Chair.

Mr. J. D. CRACE [*H.A.*] said it was with great pleasure that he rose to propose a vote of thanks for such interesting and valuable Papers. Mr. Dix had done valuable service in bringing before them in so conspicuous a manner the action of the atmosphere and rain upon old glass. He did not think anyone could realise the great extent to which the original surface had changed its temper by corrosion. Of course the admixture of black—for that was practically what it came to—had a wonderful effect in toning and harmonising colours. Although he quite agreed with Mr. Dix that no amount of weather would make a bad window a good one, there was no doubt that the action of time had a very kindly effect on the harmony of colour. One point he hoped to have heard touched upon was the great importance in stained glass of producing what was generally known among painters as the palpitation of colour by varying the depth of the pieces of colour used in any one mass. There was no doubt that a great deal of that jewel-like effect which was produced in the best windows was the result of carefully varying the amount of power in the colour presented both in the one mass and in those pieces which surrounded it below and above. The art of putting colour together in glass windows was a sort of special art, inasmuch as one had to deal with colour on a much more intense and pure scale than in almost any other branch of art. A painter of course toned his colours as he went on, and never under any circumstances produced the brilliancy which even a moderately brilliant-painted window would produce. The fact that glass was so brilliant, and the mere beauty produced by brilliancy, constituted almost a sort of standing danger to the man who had not made it his special study. One point of great value to those who were interested in and wished to influence the colouring of windows being executed for them was to have the glass when selected arranged at the cutter's on a plate-glass screen. It was a most useful and necessary thing. It was necessary for the artist engaged on the work, and very advantageous to anyone concerned in responsibility for the production of a good window. It enabled, at any rate in the first instance, the greatest slips of judgment in the choice of glass to be corrected before too much labour had been expended upon the work; and it undoubtedly had the effect of obliging the artist to criticise his work in its crudest form, and therefore enabled him to make his corrections on a broader scale than afterwards.

He supposed very few men who really cared about their work could finish a window, even after it was leaded, without wishing to change a few portions of the glass. He should certainly recommend anyone who was interested in windows to look the glass carefully over against a light as nearly as possible like that to which it would be exposed before it was finally cemented at any rate, and, if possible, before the soldering was carried to a finish. Those final inspections very often saved a great deal of trouble and vexation afterwards. He was glad to hear Mr. Gascoyne allude to the Florence windows. He did not think that until recent years either architects or glass-stainers had half realised the value of the lessons to be learned from Italian glass—or, he should say, from glass in Italy, for there was a great deal of beautiful glass in Italy which undoubtedly was produced by skilled Frenchmen and brought there. At Florence and at Siena there was a great deal of glass, and there were beautiful windows designed by Ghiberti, as well as by one of the Ghirlandajos. He could only say to any young architect who might be going to Italy for other purposes, that any time he could spend on the stained glass which he would find there in such large quantities would be time well spent, if he devoted it to the study of the glass.*

Mr. G. H. FELLOWES PRYNNE [*F.*] said that Mr. Dix seemed to think that some of them had reason to wish that glass-stainers did not exist at all. With regard to some of their churches, it was no doubt true that they had been ruined by restoration, but a majority had been ruined by the bad glass put in. Artists could do really good work now as in the past, especially in church work, but if they worked harmoniously with the architect, the effect generally would be far better. It was the want of touch between the artist in painting and the architect that was so often felt in our churches. They found that after the church had left the hands of the architect, one glass painter was put on, and then another; and there was a sort of running competition going on round the church. There was no unanimity, no unity of effect at all by such method, or rather want of method. Glass painters must feel that themselves. Mr. Dix said that where he had an opportunity to put in a very elaborately coloured window, it was a great opportunity. He was not quite so sure of

* Lippo Lippi and Pierino del Vaga were also among those who designed stained-glass windows. The stained glass seems to have been extensively made by Domenico Vini, of Gambassi.—J. D. C.

that. If the artist made too much of the single opportunity, it might be very disadvantageous to the other glass in the church and to the general harmony of effect. He was sure that Mr. Dix would agree in the view that the church, or the building which he was decorating with glass, must be considered as a whole; and that where he got brilliant lights, as he would from the east, it was a great mistake to overdo the white glass. The glass used as a background must be toned to a very great degree. Green glass, it was true, had been exaggerated; but he was not quite sure that it had not been exaggerated in the right direction. White always exaggerated itself. If a piece of white glass were put next to a piece of red, the red must necessarily look smaller. White seemed to take away from the surrounding colour, so that very little pure white could be used advantageously with stained glass. It must be modified with a very distinct tone, either warm yellow or green. With regard to the cartoons Mr. Gascoyne had set before them, it would have been better if the lines of the supporting bars or saddle-bars had been shown. One was apt to be misled by cartoons. The lines cut sometimes very awkward places, and it was advisable that in the cartoons and drawings they should be shown just as much as the leaded parts should be shown, because they become a very important feature in arranging the design. They were necessary supporting fixtures for the glass. No doubt some present had been to a place called Huy, in Belgium, where they must have been struck with the long narrow windows, with a single mullion running down the whole way—double windows, in fact. The effect was magnificent, not so much in the actual window glass design as in the colour introduced. The glass itself was not particularly good; but age had acted upon it to a certain extent, and the effect of the mass of colour, the narrow lines of colour leading up into the groyne, was perfectly sublime. He fully agreed with Mr. Gascoyne in his idea of the artist entering into the symbolic feeling of what he was designing: it was absolutely essential. The absence of that devotional feeling in the artist (he was, perhaps, speaking rather too much of church work, but it applied more to church work than to other kinds of work) would be perfectly evident in his work. One saw the mannerisms of this or that stained-glass artist standing out in his window, rather than the devotional or poetic effect he should try to get into it. Some artists laid down a definite rule that they would not treat single lights with anything but single figures. He sympathised with them to a very great extent, especially when clients demanded a "set scene" or some other elaborate subject to be got into a space of some 9 or 10 inches; that was hopeless with glass, generally speaking, and there was much to be said for the single-figure rule. But it could be carried too far. There should be some story, some lesson told in

the glass—historical, or devotional, or religious, or whatever it may be. If there were to be a single figure it was very useful to have depicted some sort of scene from the life of the individual, as so often was done in the fifteenth century; for instance, his martyrdom or some leading event of his or her life depicted below on a smaller scale. Very often it added interest to the ordinary beholder to have a little inscription giving the name or something like that. That, of course, was wholly independent of the scheme of colour that one should endeavour to carry through in stained glass. He agreed with Mr. Gascoyne that the more the real feeling of the artist (that real devotional feeling—he used the word with all sincerity) was thrown into the work, the better would be the result. It was so with artists, and with architects, and it was the same with the glass painter. He had very much pleasure in seconding the vote of thanks.

MR. GEORGE HUBBARD, F.S.A. [F.], said that it had occurred to him that if in glass painting more white were introduced there would be a better power of judging of the respective values of the various coloured glass employed. The value or intensity of any colour could only be compared with white; white, in fact, was the standard by which the value of any colour could be appreciated. For instance, it is impossible to compare the value of red with blue, yet it is possible to compare either with the common standard of white. In stained-glass windows it would not be advisable to have the dazzling transparency of clear glass, as this would have a dazzling effect and prevent the appreciation of any colour. When he was at Chartres some time ago he was extremely struck with the beauty and richness of the glass in the Cathedral; he had an opportunity not only of viewing the effect of the glass as seen from the interior of the Cathedral, but he examined the glass on the outside by getting on to the roof. To his surprise he found that the glass had the appearance of being washed over with a thin coat of cement, and it occurred to him that perhaps the rich effect of the colouring was due to some such wash.

MR. C. HARRISON TOWNSEND [F.] said that one almost anticipated that an English stained-glass designer would approach the subject of the American system of the superimposed glass from the point of view taken by Mr. Dix; that is to say, though admitting it produced certain beautiful effects, he would hold that it was not an entirely legitimate method, or one in which he (Mr. Dix) himself would care to work in his craft. He left the matter exactly at that point. If he made any remarks later on, perhaps he would be good enough to explain why it was a particular offence to produce by the means of glass, whether superimposed or single, the best effect one could, and why one should hesitate to use the double thicknesses if

one expected in that way to gain in colour-effect and value.

MR. E. W. HUDSON [A.] said that with regard to the disfigurement of saddle-bars coming across the design, was it not the fact that at the present time "cames" were made so stiffened that it was unnecessary to introduce the cross-lines, which naturally would be a disfigurement? In large windows with broad "cames" it was the custom, he believed, to adapt the bars to the shape of the principal lines. With regard to the legitimacy of the use of superimposed glass, it was the fact that there were purpose-made grades of thickness; and not only that, but grades of density of colour in the same glass; so that one could, from a single sheet, select graded and streaky colour, which would give very much better effect than superimposed glass. They must all have been struck with the beauty of the drawing of the cartoons, and also with the executed glass exhibited, and it must be supposed that these were all intended to be viewed from a very close point; but with regard to glass for use at a great height he supposed there was nothing in the cartoons showing the extra strength of lines adapted for a height of, say, thirty or forty feet. He was much struck many years ago with painted glass in the abbey church of St. Denis. He thought then, looking at it from the ground, what a magnificent general effect was produced; but when, some years later, he inspected it through a strong glass, he thought he had never seen more dreadful instances of drawing representing the human form divine.

THE PRESIDENT said they had heard something of the true artistic methods of dealing with stained glass, and they had had many interesting points raised in the discussion, which he should leave to the readers of the Papers to answer. One or two points had occurred to him in listening. It was important, as Mr. Gascoyne pointed out, that in church windows there should be a strong devotional feeling in the work. By that he meant also that there should be no disturbing element in them; that anything that seemed to suggest a problem to be solved was a mistake in a place of worship. The mind would be immediately occupied in trying to solve the mysteries represented, instead of being soothed and quieted and impressed by the beauty and quietness and stillness of the windows. Mr. Gascoyne also mentioned another matter which was important, viz. that the building should be seen first before designing the glass. He (the President) could speak from experience on that matter. It was very important, because if the stained-glass designer had no idea of the aspect, or position, or the height of the window from the ground he could not, by any possibility, design his window suitably for that position and place in the building. The experience he referred to was in the case of where some stained-glass

windows were wanted for a staircase which was abundantly lighted, but chiefly from the skylights above. The windows in question were some 10 feet from another building, so there was no direct light upon them. There was a competition with regard to these windows—he himself knew nothing about it at the time—but several eminent artists were requested to send in designs. As Mr. Dix had pointed out, competitions of designs in stained-glass windows are a delusion and a snare, and it proved to be so in this case. It so happened that the Committee, attracted perhaps by the deepest and most fully coloured drawing with the largest amount of detail in it, selected that particular design. It happened that the artist had never seen the building, and had taken no particulars even of the size of the opening. When the window was sent down completed it was at least fifteen inches too short, and a patch had to be added to begin with. The effect was disastrous. His work was entirely thrown away, and the Committee then called him (Mr. Belcher) to know what could be done. The artist himself attended and said that the architect had really supplied too much light on the staircase; that it should be at once all shut out, and then something of the colour of his window would be seen; and it might be as well to supplement this by putting electric light outside the glass! Hence it was that the whole intention was spoilt; and he hoped eventually to have the stained-glass windows removed and proper windows put in. He might relate another experience. He was afraid that when he was young he imagined that he could design stained glass, and, in fact, do everything that was necessary in a building. He tried to do it all himself. He also designed some stained-glass windows. He was glad to say he had since removed them. He had forgotten that in a narrow building where these windows were placed at a great height some allowance must be made for foreshortening and so on. The figures turned out a dreadful failure. As Mr. Dix had mentioned, it is important that the question of scale should be considered. Examining the building and noting its scale, and the general disposition of its parts, should guide one in the scale of its figures, and where they are to be introduced in a stained-glass window. The history of stained glass had not been much gone into. Unless he had mistaken the reader's intention, it had been hinted that the fifteenth-century glass was that which they should endeavour to copy. He felt very strongly that they should endeavour, if possible, to design all their work in the twentieth-century style, and that they should avoid, as far as possible, mere imitations, which, after all, were only gigantic frauds. If they could develop the beauty and value of stained glass by all means let them do it, and adopt every method and every expedient that came to hand with a view to its development. They

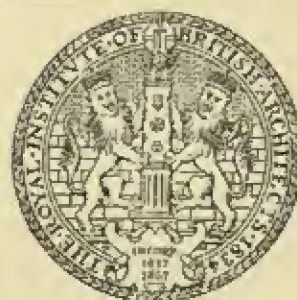
must also endeavour to make it suitable to the position it was to occupy.

Mr. ALEXANDER GASCOYNE, in responding to the vote of thanks, said that with regard to the old glass at Chartres he did not think the outside was cement-washed, as Mr. Hubbard appeared to think. It was no doubt the effect of age. He had examined several of the old windows in Cologne Cathedral, and the same effect was to be seen there. Little pits could be seen going right into the glass, and it looked something like cement wash, but it was not that at all. With regard to the cartoons on the walls, they were all designed for windows to be placed within 12 feet from the floor line. With regard to the work at Florence, one light was in the Duomo Museum at the back, where it could be examined at close quarters. The difference that the distance gave was astonishing. One could not describe the gorgeous effect in the cathedral which the light gave to those various pieces, and the way in which the robes, when they were red, were made up of the various pieces Mr. Craze had mentioned. If a robe were in blue there was a wonderful range of colour running from one blue to another which gave a brilliance and, at that height, a grand result.

Mr. ARTHUR J. DIX said he had been asked to give a reason for his objection to superimposed glazing. He thought he had given a very strong reason—perhaps his principal reason—in reading his Paper. Other than this he could only say as the Westminster boy did of his master, Dr. Fell: "I do not love thee, Dr. Fell, The reason why I cannot tell." He simply did not like the process, and, moreover, did not consider it playing the game. With all the beautiful glasses now made, if a craftsman could not get with one layer of glass the effect he wanted in his window, it had better be left alone. He had seen windows all eaten into by the atmosphere, and almost crumbling away, that needed to be put between two pieces of sheet glass and leaded together to protect them, as at York. If their windows were to remain to that stage it would be impossible in the case of superimposed glasses for the glazier to put them together.

A MEMBER: Would there not be a possibility of mildew between the superimposed glasses?

Mr. DIX: Yes; there was that objection, and a very important one too. In reply to the question put by a member with reference to the effect of cement wash noticed on the back of old windows, it was entirely due to decay through the action of the atmosphere, giving the glass all the appearance of being washed over with cement. It could not be rubbed off, and if it were wetted it returned again when dry, and it so refracted the rays of light coming through the glass that it altered the translucent nature of the material. A piece of glass could sometimes be taken from an old window and almost crumbled to powder in the hands when it had reached a further stage of decomposition.



9, CONDUIT STREET, LONDON, W., 23rd Dec. 1905.

CHRONICLE.

The Illustrations to the Papers on Stained Glass.

The Papers on Stained Glass which engaged the attention of the General Meeting last Monday were accompanied by a number of exceedingly interesting illustrations, comprising materials ancient and modern, drawings and cartoons, and the actual two-light window itself of which a photographic reproduction is given on page 96.

Mr. Gascoyne showed several of his own designs, including drawings of St. George and St. Ludmilla, prepared as cartoons for his memorial window to the late W. L. Huskinson, Esq., for the parish church of Epperstone, Notts, and the St. Anna cartoon for a single window recently executed for the Lady Chapel, St. Hugh's, Lincoln. Cartoons of a female figure, and another representing "Charity," illustrated suggestions for the treatment of staircase windows where light is required, and some heraldic cartoons were shown designed for the upper lights of vestibules and corridors. One of these was a drawing for a banneret, a mark of distinction of olden days which it is understood His Majesty King Edward contemplates reviving. A number of smaller sketches by Mr. Gascoyne recently exhibited at the Royal Academy were shown, one of them representing St. Augustine, first Archbishop of Canterbury, in full pontificals.

Of the lantern illustrations shown by Mr. Dix, the first few were intended to demonstrate the effect of age on stained glass, two being photos of windows of French glass of the fourteenth century, one of them an example of the deplorable practice of "restoring," the other only "mended"—the form of preservation so rightly advocated by Mr. Dix. Several fragments of the actual glass from old windows made into slides, contrasted with modern pieces matched in colour or tint, demonstrated in a forcible way the change the glass had undergone by exposure for ages to the atmosphere. Slides were shown also of two windows by Mr. Dix, namely, the Clerk-Maxwell Memorial, Corsoek, Dumfriesshire, and the west window, Haughton Church, Stafford; also of the great window, designed by Mr. T. R. Spence, in the Mitchell Hall,

Marischal College, Aberdeen. These were followed by several slides from cartoons by Mr. R. Anning Bell.

Special Election to Fellowship.

The Council at their meeting on Monday the 18th inst. unanimously elected to Fellowship, under the proviso to By-law 9, Mr. ARTHUR POLLARD, *President of the York Architectural Society*, of 1 Burton Stone Lane, York.

Seventh International Congress of Architects, London, 1906.

The railway companies of the United Kingdom have consented to issue return tickets to London, available from the 11th to the 25th July inclusive, at the rate of a single fare and a quarter, to members of the Congress. Negotiations are in progress with the railway authorities abroad with a view to an abatement of the ordinary fares for the benefit of foreign members of the Congress.

An exhibition organised by the Executive Committee is to be held in connection with the Congress. The chief features will be:—

- (1) A Chronological Exhibition of English Architecture from the Norman Conquest (1066) to the death of Sir Charles Barry (1860).
- (2) Oil Paintings and Water Colour Drawings of English Architecture.
- (3) English Furniture and Silver Work.

Milan Exhibition: Competition for Designs for Workmen's Dwellings.

Clause 1.—The Committee for the Milan Exhibition 1906, in conformity with the proposals of the Commission for the Social Economy Section, institutes a competition for designs of workmen's dwellings suitable to the conditions of Northern Italy.

Clause 2.—The competition is international. The subject of the competition should be treated under technical, hygienic, and economic aspects. The plans approved by the Commission organising the competition will be exhibited in the buildings of the Social Economy Section so far as space will allow.

Clause 3.—The competition comprises three categories:—

1. Designs for separate houses or blocks of houses for workmen's dwellings suitable to large towns.
2. Designs of houses or blocks of houses for workmen's dwellings suitable to small towns.
3. Designs for houses or blocks of houses for workmen's dwellings suitable for the families of working men employed in isolated factories.

Clause 4.—The separate houses or blocks of houses should be adapted to small as well as large families, and should comprise dwellings having respectively one, two, three, and in some cases four rooms. Competitors must study the hygienic,

economic, and social requirements of the population for whom they are intended, and must take care to provide for these requirements generally throughout the buildings so far as may be compatible with the conditions of cheapness with which they have to comply.

Clause 5.—Competitors may compete in more than one of the categories above mentioned.

Clause 6.—Competitors in the first and second categories must assume that they have at their disposal a clear rectangular space surrounded by four streets, which are arranged in the best possible way to serve the space in question. Competitors in the third category are quite free to select for themselves the shape and other conditions of the space they deal with. In every category they must assume that the necessary water-supply per head, electricity, gas, and drainage facilities on the *tout à l'égout* system, are available. Competitors in the second and third categories must provide for the case where no sewage accommodation is available, and point out the way of meeting the difficulty.

Clause 7.—Competitors should take into consideration all the rules laid down in the Italian Artisans' Housing Bill of 24th April 1904 (N. 164).

Clause 8.—Every scheme must provide for the housing of 200 families, representing an aggregate of 700 persons.

Clause 9.—The cost of the sites (per sq. metre) is assumed to be:

Frs. 10 in the first category (6s. 8½d. per sq. yd.).

Frs. 5 in the second category (8s. 3½d. per sq. yd.).

Frs. 1.50 in the third category (1s. per sq. yd.).

Clause 10.—Competitors must submit:

(a) A block plan of their scheme to the scale 1/500.

(b) Plans, elevations, and sections of said scheme, so that it may be complete in all essential parts, to the scale of 1/100, and particulars of the most essential structural details to the scale of 1/20. Where a general design for proposed buildings is composed of several identical units, the drawings may deal with one portion only.

(c) The metrical quantities of the proposed works.

(d) Estimate of cost calculated on the aforesaid figures for sites, and on the basis of the prices contained in the standard schedule of prices for the buildings in the commune of Milan for the years 1903-1905, with a rebate of 15 per cent., and on those commonly current in Milan for work not covered by said schedule of prices.

For every block of buildings the following information must also be given:—

Price per sq. metre of the gross area of site covered.

Price per sq. metre of the whole of the stories added together.

Prices per cubic metre measured from the ground level to the upper level of the top ceiling.

Price per head which the building is designed to accommodate.

(e) A report in which shall be fully set forth all proposals of a technical, hygienic, and social character which have been adopted in the preparation of the designs.

(f) A report describing the financial and administrative data for the execution and working of the scheme.

Clause 11.—There will be two prizes in each category, viz. one prize of Frs. 6,000 (£240); one prize of Frs. 2,000 (£80).

An international jury, whose decisions shall be final, will be appointed by the Milan Exhibition Executive Committee to award the prizes.

Clause 12.—An entrance fee of Frs. 20 will be charged, payable before 15th February 1906, to the Exhibition Committee.

Clause 13.—Designs must be forwarded to the Exhibition Committee before 31st March 1906. The date of posting of those designs which may not have reached the Committee by that date must be certified by documentary evidence.

Clause 14.—The schemes may bear either the signature of their authors or a motto, which should also appear on the superscription of an envelope containing the name and address of the competitor. This envelope will remain unopened if the design does not receive a prize.

Clause 15.—The schemes sent in as above must be withdrawn by their senders one month before the close of the Exhibition; if not claimed by that time they will be treated as the property of the Exhibition Committee.

Clause 16.—The Committee reserves the right of publishing the designs thus sent in, artistic and other rights being reserved to their authors.

The Hon. British Commissioner for the Milan Exhibition is Mr. Arthur Serena, 1 and 2 Oxford Court, Cannon Street, E.C.

Architects' Benevolent Society.

In the list of contributors to the Architects' Benevolent Society which appeared in the last issue of the JOURNAL the names of Mr. Banister F. Fletcher and Mr. J. T. Cackett should have been included as the donors of £5 5s. each. Other contributions which have since been received are:—

	Donations			Subscriptions		
	£	s.	d.	£	s.	d.
Mr. G. T. Hine	15	0	0			
Mr. William H. Burt	1	1	0			
Mr. Henry Tanner, jun.				1	1	0
Messrs. Scorer & Gamble				1	1	0
Mr. C. Forster Hayward: De-						
quest	21	0	0			
Mr. Edward W. Allfrey	5	5	0			

Mr. F. W. Hunt has promised £20 in support of Mr. Glover's offer of £50, subject to the sum of £450 being raised.

Honours and Appointments.

LORD WINDSOR [H.A.], late First Commissioner of His Majesty's Works and Public Buildings, has been created a Viscount and an Earl of the United Kingdom under the title of Viscount Windsor and Earl of Plymouth.

Mr. R. PHENÉ SPIERS, F.S.A. [F.], has been elected a Corresponding Member of the Institut de France in place of the late Mr. Alfred Waterhouse.

Mr. FRANCIS BOND, M.A. [H.A.], has been made a Foreign Member of the Société Française d'Archéologie in recognition of his recent work on *Gothic Architecture in England*.

The late Mr. H. H. Collins [F.].

Mr. Henry Hyman Collins, who died on the 13th inst. in his seventy-third year, was elected Associate of the Institute in 1859, and proceeded to the Fellowship in 1877. He was District Surveyor for the eastern division of the City of London, and had a large practice as an architect, his buildings including numerous City offices and warehouses, and large mansions. He was connected with a number of Jewish institutions, and had carried out various synagogues and public buildings for the Jewish body, the most noteworthy being the new building of the Home and Hospital for Jewish Incurables at Tottenham, which he erected in conjunction with his son and partner, Mr. Marcus Collins. He was the architect, selected in competition, for the new Lying-in Hospital for Women in City Road. Callis Court, a mansion at Broadstairs, is one of his buildings. At the General Meeting of the Institute last Monday, the Hon. Secretary, Mr. Alex. Graham, F.S.A., in formally making the announcement of his death, said that Mr. Collins had come before them professionally in many ways, especially in his capacity as district surveyor, and there were few architects who were not acquainted with him. He was a familiar figure to all of them, and they much regretted that he had passed away. But he had left a good name amongst them. In years gone by he had taken an active part in the work of the Institute, and had always been an ardent supporter of their best interests. In conclusion, the Hon. Secretary moved, and it was resolved, that a letter of condolence be sent to his bereaved family expressing the sympathy of members, and at the same time their full appreciation of his merits and his work.

The late Mr. W. Moss Settle [A.].

Mr. William Moss Settle, architect, of Ulverston and Barrow, died on the 13th inst. at the age of twenty-nine. He passed the Intermediate Examination of the Institute in 1896, and was elected Associate in 1899. He was in practice at Barrow, where he had designed and carried out a number of buildings, and was architect to the Walney Estates Company.

LORD BACON'S "PERFECT PALACE."

THE approaching exhibition of designs and drawings submitted for the Prizes and Studentships in the gift of the Institute has possibilities of exceptional interest in view of the subject chosen this year for the Soane Medallion and £100. The prize is to be awarded for the best realisation of the ideal mansion described in Bacon's Essay "Of Building," beginning at the words, "First therefore, I say, you cannot have a perfect palace, except you have two several sides," &c. The whole plan is to be 400 feet from front to back, with entrance in the centre of the front block; the length of the front block facing the forecourts is left optional; but the general disposition of the plan, as indicated in the Essay, is to be followed. Among the drawings required is a block plan to a scale of $\frac{1}{4}$ inch to the foot, showing the three successive forecourts described by Bacon and the position of the offices standing at a distance, with galleries of approach, as described in the last sentence of the Essay. The style is left entirely optional. The Exhibition opens to the public on the 23rd prox. Meanwhile the Essay itself will be useful to refer to, and it is thought advisable to print it here in full, that members may be in a position to appreciate the task competitors have had set them, and to follow with intelligence their various renderings of a "perfect palace." The Essay, which follows, is taken from the ten-volume edition of *The Works of Francis Bacon*, published in 1802, kindly lent for the purpose by the Hon. Secretary, Mr. Alex. Graham, F.S.A.

XLV. OF BUILDING.

Houses are built to live in, and not to look on; therefore let use be preferred before uniformity, except where both may be had. Leave the goodly fabrics of houses for beauty only, to the enchanted palaces of the poets: who build them with small cost. He that builds a fair house upon an ill seat, committeth himself to prison. Neither do I reckon it an ill seat only, where the air is unwholesome, but likewise where the air is unequal; as you shall see many fine seats, set upon a knap of ground, environed with higher hills round about it, whereby the heat of the sun is pent in, and the wind gathereth as in troughs: so as you shall have, and that suddenly, as great diversity of heat and cold, as if you dwelt in several places. Neither is it ill air only that maketh an ill seat; but ill ways, ill markets; and, if you will consult with Momus, ill neighbours. I speak not of many more; want of water, want of wood, shade, and shelter; want of fruitfulness, and mixture of grounds of several natures; want of prospect, want of level grounds; want of places at some near distance for sports of hunting, hawking, and races; too near the sea; too remote; having the commodity of navigable rivers, or the discommodity of their overflowing; too far off from great cities, which may hinder

business; or too near them, which lurcheth all provisions, and maketh everything dear; where a man hath a great living laid together, and where he is scant: all which, as it is impossible perhaps to find together, so it is good to know them, and think of them, that a man may take as many as he can: and if he have several dwellings, that he sort them so, that what he wanteth in the one, he may find in the other. Lucullus answered Pompey well, who, when he saw his stately galleries, and rooms so large and lightsome, in one of his houses, said, "Surely an excellent place for summer, but how do you do in winter?" Lucullus answered, "Why, do you not think me as wise as some fowls are, that ever change their abode towards the winter?"

To pass from the seat to the house itself, we will do as Cicero doth in the orator's art, who writes books *de oratore*, and a book he entitles *Orator*: whereof the former delivers the precepts of the art, and the latter the perfection. We will therefore describe a princely palace, making a brief model thereof. For it is strange to see now in Europe, such huge buildings as the Vatican, and Escorial, and some others be, and yet scarce a very fair room in them.

First therefore, I say, you cannot have a perfect palace, except you have two several sides; a side for the banquet, as is spoken of in the book of Esther; and a side for the household: the one for feast and triumphs, the other for dwelling. I understand both these sides to be not only returns, but parts of the front; and to be uniform without, though severally partitioned within; and to be on both sides of a great and stately tower, in the midst of the front; that as it were joineth them together on either hand. I would have on the side of the banquet, in front, one only goodly room above stairs, of some forty foot high; and under it a room for dressing or preparing place, at times of triumphs. On the other side, which is the household side, I wish it divided at the first into a hall and a chapel, with a partition between, both of good state and bigness; and those not to go all the length, but to have at the farther end a winter and a summer parlour, both fair: and under these rooms a fair and large cellar sunk under ground; and likewise some privy kitchens, with butteries, and pantries, and the like. As for the tower, I would have it two stories, of eighteen foot high apiece, above the two wings; and a goodly leads upon the top, railed, with statues interposed; and the same tower to be divided into rooms, as shall be thought fit. The stairs likewise to the upper rooms, let them be upon a fair open newel, and finely railed in, with images of wood cast into a brass colour; and a very fair landing-place at the top. But this to be, if you do not appoint any of the lower rooms for a dining-place of servants; for otherwise you shall have the servants' dinner after your own: for the steam of it will come up as in a tunnel. And so much for

the front. Only I understand the height of the first stairs to be sixteen foot, which is the height of the lower room.

Beyond this front is there to be a fair court, but three sides of it of a far lower building than the front. And in all the four corners of that court, fair staircases cast into turrets on the outside, and not within the row of buildings themselves: but those towers are not to be of the height of the front, but rather proportionable to the lower building. Let the court not be paved, for that striketh up a great heat in summer, and much cold in winter: but only some side alleys, with a cross, and the quarters to graze, being kept shorn, but not too near shorn. The row of return on the banquet side, let it be all stately galleries; in which galleries let there be three, or five, fine cupolas, in the length of it, placed at equal distance; and fine coloured windows of several works. On the household side, chambers of presence, and ordinary entertainments, with some bed-chambers; and let all three sides be a double house, without thorough lights on the sides, that you may have rooms from the sun, both for forenoon and afternoon. Cast it also, that you may have rooms both for summer and winter: shady for summer, and warm for winter. You shall have sometimes fair houses so full of glass, that one cannot tell where to be come to be out of the sun or cold. For imbowed windows, I hold them of good use (in cities, indeed, upright do better, in respect of the uniformity towards the street), for they be pretty retiring places for conference; and besides, they keep both the wind and the sun off; for that which would strike almost through the room, doth scarce pass the window. But let them be but few, four in the court, on the sides only.

Beyond this court, let there be an inward court, of the same square and height, which is to be environed with the garden on all sides: and in the inside, cloistered on all sides upon decent and beautiful arches, as high as the first story: on the under story, towards the garden, let it be turned to a grotto, or place of shade or estivation: and only have opening and windows towards the garden, and be level upon the floor, no whit sunk under ground, to avoid all dampishness. And let there be a fountain, or some fair work of statues, in the midst of this court; and to be paved as the other court was. These buildings to be for privy lodgings on both sides, and the end for privy galleries: whereof you must foresee, that one of them be for an infirmary, if the prince or any special person should be sick, with chambers, bed-chamber, *antecamera* and *recamera*, joining to it. This upon the second story. Upon the ground-story, a fair gallery, open, upon pillars; and upon the third story, likewise, an open gallery, upon pillars, to take the prospect and freshness of the garden. At both corners of the farther side, by way of return, let there be two delicate or rich cabinets, daintily paved, richly hanged, glazed with

crystalline glass, and a rich cupola in the midst; and all other elegance that may be thought upon. In the upper gallery too, I wish that there may be, if the place will yield it, some fountains running in divers places from the wall, with some fine avoidances. And thus much for the model of the palace; save that you must have, before you come to the front, three courts: a green court plain, with a wall about it; a second court of the same, but more garnished, with little turrets, or rather embellishments upon the wall; and a third court, to make a square with the front, but not to be built, nor yet inclosed with a naked wall, but inclosed with terraces, leaded aloft, and fairly garnished on the three sides; and cloistered on the inside with pillars, and not with arches below. As for offices, let them stand at distance, with some low galleries to pass from them to the palace itself.

REVIEWS.

BUILDING DEVELOPMENT.

A History of Architectural Development. By F. M. Simpson, Architect, Professor of Architecture, University College, London. Vol. I. ["The Architects' Library" Series, published by Longmans, Green, & Co.]

Professor Simpson has produced the first volume of what promises to be a very useful book, if the two succeeding volumes preserve the high level of this. The development of architecture from the earliest times is a large subject, embracing many divisions, upon each one of which copious treatises might be—and in many cases actually have been—written. The merit of the present book lies in the manner in which the main stream of development is followed without long excursions into its tributaries, while, at the same time, sufficient indications are given as to the sources whence full information can be derived regarding those matters upon which the author has not room to dilate.

It must not be supposed, however, that we have here a mere *réchauffé* of other people's dishes. Professor Simpson has visited many of the buildings to which he refers, and nobody is likely to be so captious as to decline to read a history of architecture merely on the ground that the author cannot speak from first-hand knowledge of all the places he describes, covering, as they must, a large proportion of the civilised world. The study of the buildings themselves undoubtedly lends to the pen or pencil of the writer a facility and power of conviction which are not to be obtained from an inspection through the eyes of other observers; and we have an instance of Professor Simpson's independence of view in his convincing restoration of the west front of the Erechtheum.

Egypt, of course, starts the long history of building development, Assyria comes next, then Persia. Next follows Greece with its superlative

treasures; and it is not a little illuminating to find how comparatively small a space suffices (on the scale necessarily adopted in so wide a survey) to deal with a phase of architecture which to some minds has represented all that was worthy of study in this the most monumental of the arts. Roman architecture follows that of Greece, and is succeeded by the efforts of the early Christians, which, in their turn, lead on to the far-reaching influences of the Byzantine style. There the present volume ends; but its two successors will deal, one with Romanesque and mediæval buildings, and the other with the Renaissance.

Architecture, it is true, is the most monumental of the arts; but in looking through Professor Simpson's pages one cannot help feeling how fleeting are its glories. Not even the Pharaohs, piling enormous rock on rock in their frostless climate, nor yet the Romans with their vast masses of concrete covering buildings of which the extent and splendour are never realised; not all the giants of the past, who counted labour and human lives as nothing in the pursuit of their schemes, have been able to stay the ravages of "Time's fell hand," or to conquer the indifference of their successors. Commerce and war seem equally destructive of ancient buildings. The one turns the Parthenon into a powder magazine, the other clears away the work of its forefathers to get more space for its own convenience. Most of the examples cited in these pages are ruins; some through convulsions of nature, but most through the neglect of man arising from changes produced either by the decay of a nation or the death of a creed. The gods of Greece have vanished, and who was there to preserve their temples? The gods of Rome fared slightly better, being partly taken over by the Christians along with some of their temples; but these cases were few, and most of the buildings of ancient Rome are buried in their own ruins and the accumulated *débris* of many centuries.

The slow but persistent changes which building underwent can be traced in Professor Simpson's book; but he is less inclined than most other writers to regard the course of development as showing a continuous evolution. He sees in certain forms and features which resemble those of other lands and earlier times an indication of a fresh start rather than evidence of lineal descent. How far this was or was not the case will always remain an interesting matter of speculation, for no evidence other than a comparison of surviving fragments is ever likely to be forthcoming.

Not the least interesting part of the book are the pages dealing with the little-known buildings of Syria. They are mostly churches, but they are huddled, especially as to their plans, with much skill and originality, and it is curious to find that among their ornamental features are some which are strangely akin to those which we are accustomed to associate with the mediæval work of

Western Europe. Indeed, a perusal of these pages widens the horizon wonderfully and makes the reader feel how necessary it is for him to revise his youthful division of all architecture into Classic and Gothic. He is brought also to look below the surface, and to realise that true differences of style are the result, not of arbitrary changes of form, but of differences in the method of construction. One result of this way of treating the subject is that the numerous and excellent illustrations include a large proportion of plans and sections as well as photographs and sketches.

The whole volume is well printed and got up, and rouses a desire for the speedy appearance of the two succeeding parts.

Kellering.

J. ALFRED GOTCH.

DEVIATION OF AXIS IN MEDIÆVAL CHURCHES.

La déviation de l'axe des églises est-elle symbolique? By R. de Lasteyrie, Membre de l'Institut. (Mémoires de l'Académie des Inscriptions et Belles-Lettres, vol. xxviii.) Paris, 1905.

The subject of the masterly Paper which our Honorary Corresponding Member, the Comte de Lasteyrie, has recently presented to the Library possesses an interest which is perhaps more purely archaeological than architectural. It is still admitted, however, that some knowledge of the history of his art must form part of the equipment of the architect of to-day, and it is of importance, therefore, that he should hold sane views as to the methods of building which were adopted by his predecessors. That the lesson taught by such a Paper as this may not be altogether without its present-day use seems to me to be indicated by the tendency in some quarters to exalt certain irregularities of line in mediæval buildings into "refinements," and to credit their builders with ideas which were entirely foreign to their methods.

The theory refuted by M. de Lasteyrie in this Paper had a certain vogue during the last century. In many mediæval churches we find a deflection in the alignment of the main axis of the building, the axis of the choir forming a more or less pronounced angle with the axis of the nave. This deviation of axis was explained as symbolical of the inclination of the head of Christ on the cross. I think, however, that serious students in England have long since rejected this theory, together with those of the "leper windows," cross-legged "crusaders," and other superstitions of the Gothic revival, and I cannot believe that M. de Lasteyrie is right in thinking that the majority of English archaeologists still accept it. It is certainly true that it was still adopted by most archaeologists in France when M. de Lasteyrie's Paper was written. One exception was M. Barbier de Montault, who was convinced to the contrary by the fact that not a single one of the liturgists of the Middle Ages ever mentions deviation of axis; and he asks how, if there were any symbolism in

this inclination, it could possibly have escaped writers like Hugh of St. Victor, Sicard, Durandus, and others, who see symbolism everywhere? M. de Lasteyrie analyses passages from these writers which have been quoted in support of the symbolic theory, and he proves conclusively that none of them do support it in the least degree. He remarks, too, that if any isolated passage could be found, it would scarcely carry much weight, for it would only belong to the category of fantastic interpretations invented afterwards to explain things with which it is evident that symbolism had nothing whatever to do. For instance, Durandus says that the sacristy in which the priest puts on the sacred ornaments signifies the womb of the Virgin in which Christ put on the garment of the flesh. Yet no one suggests that sacristies were added to churches with any idea of symbolism. M. de Lasteyrie quotes with approval a rule laid down by Le Blant, that we should never suggest a symbolic intention, or accept any explanation based on such a supposition, unless proof can be found in the writings of the Fathers or of the old liturgists. It would be an excellent thing if writers on symbolism would follow this sage advice.

There are other considerations which cannot be reconciled with the theory in question. The usual treatment of the crucifix shows the head of Christ leaning towards the right (i.e. towards the left of the spectator). But we find that, instead of the deviation of axis being always towards the north, it is frequently towards the south, and there is no reason to assert even that the cases of northward deflection are more numerous than those of southward deflection. Before the thirteenth century, moreover, the crucifix represented a triumphant Christ, with head erect; nevertheless numerous churches of this earlier period show the same deflections which we find in later buildings, and these we find too in churches which have not a cruciform plan.

What, then, is the true explanation of these frequent deviations of axis? After discarding the æsthetic reason as unworthy of serious notice, and the impossible theory of structural movement, M. de Lasteyrie notices the explanation which supposes some local necessity, such as want of space, or the presence of some street or other obstacle which had to be avoided. Such causes do indeed account sometimes for irregularities in external walls, in aisles, in the length of transepts, and in the form and development of choir plans, but they do not generally necessitate any deviation of axis. We come, then, to the more general explanation of carelessness, indifference, or negligence on the part of the builders, to which far too much importance has been attached. Careful examination shows that, instead of irregularities being due to negligence or caprice, they arise simply from the practical difficulties which the builders encountered, difficulties frequently augmented by the impossibility

of making a clean sweep of an earlier structure occupying the site.

It is easy to dispose of the objection sometimes made that irregularities are found even in cases where there is reason to believe that the builders were not inconvenienced by the presence of pre-existing work. Nothing could be more erroneous than the common vague idea that the buildings of the Middle Ages were carried out in a single campaign. This remark applies, not only to the numerous cases where different parts were built at quite different building-periods, nor only to cases of addition or enlargement, but also to churches which, although virtually of one period, were built in successive sections in order that the parts completed might be used for worship while the works were being continued in another part. A break in the masonry, a sudden interruption or change in design of some decorative feature in elevation or section, or an unlooked-for difference of level—such small things prove the truth of this observation. In order to realise the difficulty of adjusting a new section of the work to one already completed, we must remember that the part completed and used for worship would have to be partitioned off by screens or temporary walls which would completely intercept a through view, and that the builders possessed none of those instruments which would now be used in any difficult piece of setting out. It is easy to see how a trifling initial error might result in a very pronounced deviation. Here, in fact, we have the true explanation of most of the irregularities of plan and deviations of axis which are found in mediæval buildings.

To those who have made a serious study of mediæval architecture these observations will doubtless appear the merest truisms. They were admirably stated twenty-five years ago by Mr. J. T. Micklethwaite in his luminous Paper on "The Growth of English Parish Churches." "The key," he said, "to the history of the mediæval parish church is the fact that it never ceased to be used." . . . "The most extensive works were always done piecemeal. We sometimes see churches, and large ones, too, which at first sight look the same date throughout, as if they had been built entirely new straight out of the ground. But a careful examination of them will generally reveal the order of the work, and show evidence of the earlier buildings even in those which have replaced them. The distortion of some plans, for which strange and fantastical reasons have been invented, appears natural enough when we remember the conditions under which the builders worked and the difficulty which they must have experienced, with the imperfect instruments at their command, in setting out a complicated building on a site already occupied" (*Archæological Journal*, xxxvii. 371). So wrote Mr. Micklethwaite, and so, almost in identical terms, writes M. de Lasteyrie. The *entente* is complete.

One or two of the examples discussed by M. de Lasteyrie may be noticed here. At Notre-Dame, Paris, the deflection of the axis occurs precisely at the point where there was an interruption of the works. The axis of the abbey-church of Saint-Denis shows deflection in three directions, corresponding to its three phases of construction during the twelfth century. The plans of Saint-Germain-des-Près, Paris, Saint-Lamier, Blois, and Saint-Nicolas-du-Port teach the same lesson. It would be tedious to quote English plans of the same kind; for, indeed, examples of deviations of axis and irregularities arising from the same cause exist in hundreds of parish churches. Of larger churches I will only mention one—York Minster—which can easily be tested from Mr. Roland Paul's plan (*The Builder*, 7th January 1893, text page 11).

M. de Lasteyrie concludes his Paper with an English example (Deverley Minster) of deviation in the transverse axes of the bays of the nave. Let me cite a corresponding example from France. In R. J. Johnson's *Specimens of Early French Architecture* there is an excellent plan (plate 16) of the monastic church of Saint-Léon-d'Esserent (Oise), which shows a definite deviation in the transverse axes of the nave bays. The explanation is simple. Since Johnson's plan was made a restoration has revealed the fact that the church built after the foundation of the priory in 1081 was terminated eastward by an apse flanked by two smaller apses, the latter being on the site of the existing bay immediately west of the towers which flank the choir. The western responds of the nave arcade of the eleventh-century church still survive, and against the original west wall a narthex was built in the middle of the twelfth century. When the reconstruction of the church was undertaken in the last quarter of the twelfth century, beginning at the east end, the chevet was set out regularly in itself, but its transverse axis was not set exactly parallel with the west wall of the eleventh-century church. The first section of the work ended with the double bay west of the flanking towers, and the original nave would be left standing for use until this first section could be occupied. When the second section was undertaken, and the old nave taken down, the error was evidently discovered, and the bays on the north side of the nave were spaced a little more widely than those on the south side, so as gradually to meet the deflected line of the west wall, which could not have been removed without destroying the narthex and its towers.

To sum up. There was never the least idea of symbolism in the inclination of the choir plan of any mediæval church. Irregularities of this kind are simply accidental facts, resulting sometimes from the nature of the site, more frequently from obstructions arising from the presence of earlier structures, or from changes in, or additions to, the original plan; but in the majority of cases they are the inevitable result of the conditions

under which the builders of the Middle Ages worked, and of the imperfection of the methods at their disposal for adjusting successive constructions in vast buildings, the separate parts of which were never erected all at the same time. M. de Lasteyrie quotes an interesting story which shows how architects of the Middle Ages regarded unnecessary irregularities. At Metz there is a church, built by the Celestines between 1371 and 1409, which shows a very pronounced deflection of its axis. A chronicle tells us that the architect, ashamed of having made his work so crooked, died of grief and distress!

JOHN BILSON.

MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session 1905-06, held Monday, 18th December 1905, at 8 p.m.—Present: Mr. John Belcher, A.R.A., President, in the Chair, 13 Fellows (including 5 members of the Council), 25 Associates (including 2 members of the Council), 1 Hon. Associate, and several visitors: the Minutes of the Meeting held 4th December 1905 [page 93] were taken as read and signed as correct.

The Hon. Secretary announced the decease of Hyman Henry Collins, District Surveyor for the Eastern Division of the City of London, elected Associate 1859, Fellow 1877; and it was resolved that a vote of condolence with his relatives be passed, and that a letter be sent from the Institute to his bereaved family expressing the sympathy of members, and their full appreciation of the merits and work of their late colleague.

Mr. Frederick Wallen attending for the first time since his election as Fellow was formally admitted by the President.

The following candidates, found by the Council to be eligible and qualified for membership according to the Charter and By-laws, were recommended for election:—As FELLOWS (27): Reginald Blomfield, A.R.A., M.A. Oxon., F.S.A.; Walter Cayo; Howard Chatfield Clarke; Robert Burns Dick (Newcastle-on-Tyne); William Hawke [Assoc. 1896] (Cape Town); Gerald Calcott Horsley [Owen Jones Student 1887, 1888]; Benjamin Septimus Jacobs (Hull); Professor William Richard Lethaby [Scone Medalist 1879, Pugin Student 1881]; Edwin Landseer Lutyens; Mervyn Edmund Macartney; William Cecil Marshall, M.A.; Edward John May [Pugin Student 1876]; John Howard Morgan (Cardiff); Ernest Newton; Segar Owen [A. 1896] (Warrington); Ambrose Macdonald Poynter; Edward Schroder Prior; Halsey Ralph Ricardo; Charles James Tait [Associate 1882]; Robert John Thomson [Associate 1894]; Thomas Harrison Thorpe (Derby); William Turnbull (Wellington, New Zealand); Hugh Thackeray Turner, F.S.A.; Edward Prioleau Warren, F.S.A.; Louis Alfred Westwick (Massfield); Francis Albert Whitwell; Walter Henry Woodroffe [A. 1888]. As ASSOCIATES (2): John Archibald Lucas [Qualified for Associateship 1893] (Exeter); William Dathy Quirke [Probationer 1901, Student 1902, Qualified for Associateship 1905]. As HON. CORRESPONDING MEMBER: Martin Nyrop, Member of the Royal Academy of Arts (Copenhagen).

Papers by Messrs. Alexander Gascoyne and Arthur J. Dix on STAINED GLASS having been read by the authors and illustrated by cartoons, executed work, materials, and lantern slides, the Papers were discussed, and a vote of thanks passed to the authors by acclamation.

The proceedings closed, and the meeting terminated at 9.35 p.m.



CATHEDRAL OF CHARTRES, FROM THE JONKE GUILLAUME.

THE "PRECIOUS WINDOWS" OF CHARTRES.

By CLEMENT HEATON (Neuchâtel).

IN the last fine days of an Indian summer it was our fortune to linger awhile in the small but thriving town which surrounds the richest of all the cathedrals of Europe. There is no decay at Chartres, as there is at Ravenna; and no belt of factories, as at Nuremberg; neither is the cathedral lost in the busy movement of a metropolis, as at Paris or London. One feels in the comfort of a well-to-do present, and yet in contact with a past so great that it gives a character to all the country round. The giant mass of the cathedral is continued through other monuments into the open field—churches, gateways, stretches of fortified wall, and mediæval dwellings. The mind is in repose and stimulated in such a spot. In these radiant autumn days the noble spires, the finest on the Continent, rose sharp against a clear pale-blue sky above the façade, so strong and solid as to appear like a weather-beaten Alp rather than a work of man, and gave, as it were, an invitation to study the past.

All the building is grey; even the glass of the windows is not black, forming dark patches on the stone, but is decomposed into iridescence of pearly grey, and on this the black lines of the quatrefoiled bars alone stand out as black. Not far from the cathedral, the church of Saint-Pierre is beautiful also in its quiet *Place*. When we saw it one early morning it rose from a belt of trees whose branches were half bared of their leaves of tawny gold; and its buttresses mounted upwards to the long dark roof, dark against the bright pale sunshine whose light pierced through the two walls of ancient glass, making it a sea of transparent grey with bright glints only of ruddy red and sombre blue. Such sights, seen for an instant only, strike home like a barbed arrow, to remain fixed in the memory for ever. There is nought on earth more fair.

In the falling twilight, grey walls are dark and mysterious, and as we wandered in the failing light along the banks of the sluggish river, we saw the last gleams of evening reflected in its dark water as lines of amber; above this, low, rambling masses of roofing, houses

huddling together as the centuries left them, with here and there a glint of a modest lamp. Far away above these dwellings, above the water and the willows feathering into the sky, the long, dark mass of the cathedral dominated all things, and its two spires, now black, fined away into points in the darkness, while between them the silver streak of the new moon appeared.

From such a beauteous present, then, we looked down the vista of the past into the doings of the men who lived and worked here, as living as we to-day—when the great cathedral was covered with scaffolding, and all was fresh from the quarry and not grey with age.

Day by day we wandered in the sombre light of its interior, lit by the venerable windows whose glass has tintured the light for seven centuries, and we asked whence and how came these masterful works? When one sees, as here, the great place such colour occupies in the general architectural effect, as compared with the pale glare of the cathedral at Amiens, one realises that such a question is no unimportant element in the history of architecture. And yet the books give but meagre reply.

The term "precious windows" is employed by the monk named Theophilus, who wrote, there is every reason to believe, in the twelfth century, and whose MS. is happily extant. It occurs in his preface in the phrase "*quidquid in fenestrarum pretiosa varietate diligit Francia.*" This author has been much quoted; yet, that all that might be has been gleaned from him is not the case; and as one who doubtless once trod so important a centre as Chartres, we make no excuse to turn to him again.

And, first, to note this, that if he wrote of glass painting, it was as part of a larger whole. The book in which he speaks of it is the second of three, and treats of glass making, of the building of furnaces, and the making of windows and of vessels in glass. The first book treats of mural painting, and the last of metal work in general.

In speaking of making the windows, he says that to make the iron mould for casting the necessary strips of lead one is to use the tool for working cast metal; and in speaking of painting the glass, he says the lines are to be painted as for wall painting; one uses the brown colour called "posec." We may infer, then, that he was accustomed to see all these arts carried on together, and various facts confirm this. At Angers, in 1080, the Abbey of St. Aubin gave the use of a house and vineyard to the painter, one Foulques, on condition that he painted decorations for the monastery and made their windows. At Cluny there was a room, some eight metres broad, devoted to the making of metal work and glass windows. The Abbot Suger was a goldsmith, and had windows made for him at St. Denis. At Auxerre three prebends were appointed in the eleventh century—one a painter, one a glass-worker, a third a goldsmith. In 1066 the Abbot Didier sent to Constantinople to engage workmen cunning in the art of working mosaics and incrustations &c., and he trained among his own people "very studious workmen in all kinds of works which are made in gold, silver, bronze, iron, glass, ivory, alabaster, and stone" (*Chronicle of Leon, Bishop of Ostia*).

We have thus insisted on this point because it is necessary to understand what has been so lost to view, that the ancient arts were not worked *separately*, as is the case to-day, but that many kinds of craftsmen worked in touch with each other around a common centre of interest, thus producing a collectivity of intense intellectual attention directed to one end of architectural adornment.

Tinted glass was known to the Romans, the Gauls, and the Greeks: they worked in small quantities, and made imitations of precious stones, and confined their aims to the decorative use of the material. The traditions of this art were handed down the dark ages, and we see by the fact related by Abbot Didier how it may have come to Venice, and thence through Lombardy to the North. Enamelling was also transmitted direct to the Rhenish centre by workers brought by a princess—the wife of Otho—from Byzantium. It is from the

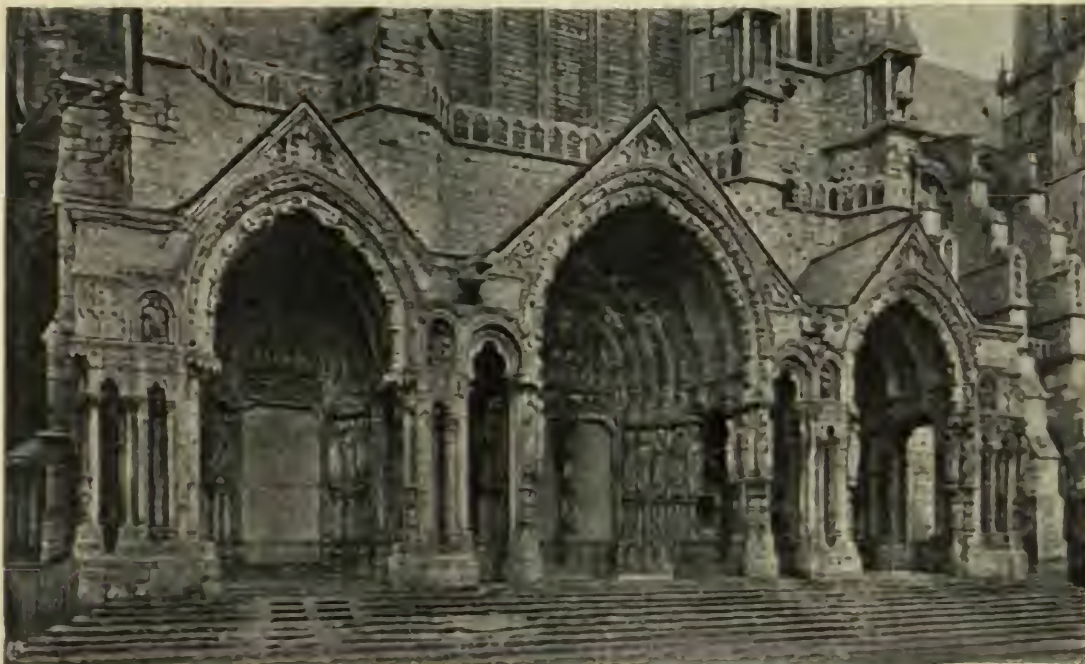
Rhenish centre* that the arts must have spread, and apparently by the Comacine masons and decorators. We find the earliest works in glass at Dijon, Auxerre, Zurich, Strasburg, Metz, and thereabouts, and one is disposed to regard this lower Rhenish centre as being the true birthplace of glass painting: it seems to have been transmitted thence by Chalons to St. Denis, Chartres, and Normandy (Le Mans, Poitiers, Angers) in the early part of the twelfth century.

Theophilus had knowledge of this traditional origin, for he speaks of "treasure bequeathed to our age by the wise foresight of our predecessors." Hence we need have no difficulty in realising how glass-making existed in the eleventh century, in composite ateliers where men also made enamels, worked metals, and painted on walls and roofs.

The Museums of Paris, Cologne, Berlin, &c. are rich in examples of the enamels they made, which it is well known are exclusively *cloisonné* or *champlevé*. The archaeologist di Sommerard suggested many years ago that such enamels were the point of departure for glass painting. This is now conclusively proved to be the case by a comparison between enamels still existing and the glass at St. Denis and Poitiers. Various curious technical mannerisms prevalent in the earliest windows which disappear immediately for ever are only to be explained as borrowings from enamel design, and seem to indicate that the earliest windows were made by enamel workers. Suger says he brought strangers to execute his windows at St. Denis, and he brought an enameller from Verdun to make the great *champlevé* crucifix and reliquary, so that everything favours this view. The same is true at Le Mans, where Hucher has already noticed that the design of the earliest glass there is the same in many respects as the enamel plaques still preserved in that town.

The *cloisonné* or *champlevé* enamels consist of plaques of metal with raised lines into which powdered enamel was placed and fired, and the whole then polished down. Such pieces were generally small, and though figure-work is found, they were mostly reserved as bands of colour and ornament associated with *repoussé* silver or gold plate, where the figure-work

* "Il y a bien de croire aussi que ce fut dans les provinces qui avoient le Rhin que l'invention en a été faite" (J. Labarte).



CATHEDRAL OF CHARTRES, NORTH FRONT.

was more conveniently executed. The altar at Sant' Ambrogio at Milan is perhaps the finest example of such work. It was made by a German in 835. The medallions so formed are separated very often from the enamel by a beaded filet made from a drawn gold wire, as described in the third book of Theophilus.

The earliest enamels are in transparent glass and not opaque, as in the later Rhenish and Limoges work, which is entirely in *champlevé*, and at the end is of considerable size.



TWELFTH-CENTURY GLASS: PART OF ONE OF THE WEST WINDOWS TAKEN DOWN FOR RESTORING, SHOWING MEDALLION AND BORDERED DEPTH AND THE PATINA ON THE GLASS.

One can see an example in the book cover, from St. Denis at the Louvre, of the twelfth century. If made without the backing, as found sometimes, one would have a tiny glazed window where the lead lines are represented by the *cloisons*. Such a piece would have captivated the attention, and would have certainly suggested making larger panels by using the pieces of enamel as they came from the crucible before being reduced to powder for enamelling. They would be united by metal strips of larger calibre, and from that to cutting up the glass made for the utensils was a natural step. It is certain that all the means for executing such work would be at hand together in a composite workshop, and that having arrived at this stage nothing would be more natural than to paint the faces, hands, and draperies of figures, as was

being done on the walls, by mixing powdered metallic scales with the enamel used for the *cloisonné* enamel, and firing it down in a similar way. The earliest glass known—that at Le Mans and Châlons-sur-Marne—shows figures whose draperies are so angular that they imply that the habit of so drawing them was that of a man accustomed to cut them in metal; and such a peculiar technique quickly disappears and does not again occur. That these windows are very nearly the earliest figure-work done would appear from the fact that the writer of the *Liber Pontificalis* of that place, speaking of Guillaume de Passavant, who erected windows in 1142-1186, mentions them as being *life-like*, and yet as irradiating bright reflections like those of gems. This association of gem-like brilliancy and life-like figures is the moment when from the barbarous enjoyment of mere coloured light some subjective interest was sought for.

We have thus examined an admittedly dark subject in order to get at an understanding of the kind of design found in early windows—the origin of which, if long recognised as existing, has not yet been explained. If we fix our attention on the idea of a small panel of stained leaded and painted glass made with very limited appliances, and as an offshoot of the enamel work and metal work which in the eleventh century was the great art of the day, we shall realise that the desire to utilise such panels would take the form of making a series of them and fitting them into the iron bars which were inserted into the window openings. Such bars exist to this day at the Cathedral of Torcello at Como, and at St. Pierre de Clages, near Riddes in Valais, Switzerland. Such an assemblage of small parts making one whole was the

common basis of design for altar-frontals, reliquaries, and book-covers so much in vogue. There would be thus a series of square panels in the iron bars; but the monotony of this would suggest the alternation of circles and squares, and the device of putting a large border all round the series, thus making them one *ensemble*. The intervals formed between the squares and circles would be filled by geometric ornaments like those used for the champlévé tablets, and the dividing lines so universally found would be suggested by an imitation of the pearly borders in metal nailed round the repoussé panels. The figures would be drawn with this repoussé in mind as bas-



ONE OF THE LOWER PANELS OF THE SAME WINDOW.

reliefs; that is to say, as flat on an even ground. And this ground would be blue, which was considered of all the tints the most precious, and was asserted to be made from sapphires; or sometimes on red. The painting would be made in outline, with no desire for realism, after the tradition of the wall painting also in use. Theophylus says: "You will employ the colour in the faces and hands instead of the colour described in the preceding book, called *pose*." As to the subjects, they were, for all the crafts, chosen by the clerks, and given in writing for execution to the craftsmen. There were also traditionary forms of representation, as well as for the details and arrangement.

This represents very nearly all that can be known to-day of the origin of glass painting. It is evident that such an atmosphere and conditions would lead to very honest craftsmen's work, based on the strong and delicate Romanesque traditions. And in every particular we find all this existing. The impersonal but honest craft thus organised formed the strong root from which the later Gothic developments outgrew.

The windows at Châlons-sur-Marne, Le Mans, those of St. Denis, and the three great windows in the west wall of Chartres form a manifestation of this early epoch where all the particulars enumerated are found.

But years passed rapidly for them as for us. The men who in their strength worked out the new art grew feeble, and gave their places to sons and apprentices, who learning at the outset a living art would be set to work at once to melt, to cut, to paint, to lead up. They were free at once both to extend and improve a process already existing, and to give all their attention to design.

At this very moment, too, there was an immense field for such work. The age of building enormous cathedrals had come; architecture was in a state of active transformation; new ideas were eagerly caught at and found place in the growing fabric of tradition which Gallic invention was cultivating on the Romanesque basis. The attention of the great men of the day was given to such things, and this new means of giving at once most brilliant colour and subjective representations made a deep impression on the public. Hitherto the centre of interest had been in wall painting, in sculptured capitals, and in the wonderful goldsmith's work and enamels. (At Vezelay, for instance, there is no place for glass in the early twelfth century nave, and the capitals offer a world of subjects comparable to the windows of Chartres.) And at this very moment the great discovery had been made of throwing the whole weight of the vaulted roof on to definite points by the ribs, which conducted the stress on to the clustered shafts and left the wall veil between with so much less work to do. It could then be cut away into window openings, to make room for the coloured windows which now became the recognised means of illustrating history and dogma, while the capital became merely ornamental and simpler, and wall painting faded into insignificance. Hence it came to pass that the new art had a moment of immense popularity; nothing like it had ever been seen. It was in its day as great an excitement as automobilism in ours. Nobles occupied themselves in the art, or the art was in such esteem that those who took it up became nobles by the fact of doing so. Prelates and princes found funds, and the corporations vied with each other in the honour of providing a window which illustrated their profession. There was the same momentary enthusiasm which was caused at Florence by the new school of painting inaugurated by Cimabue. Theophilus speaks of those who admired the brilliancy of the glass, and the Le Mans MS. says that people forgot their business to look at the windows erected by Guillaume de Passavant. In this atmosphere of intense interest and strong activity did the twelfth-century windows of Chartres come into being, while the King of England brought over artists from St. Denis to work at York, part of whose work still remains.

On entering the cathedral one is in a state of semi-darkness. The rich colours of the glass produce an obscurity which it takes a little time to get accustomed to. But attention directed to the windows, one finds them not only beautiful, but mysteriously beautiful. Truly, as we shall see, there was a rich science and noble art which make them independent of any added beauty; yet it is the case that, beautiful as a Greek bronze is even in a plaster cast, it is far more beautiful when it is seen in the added beauty of the rich patina time has given it, and it is the same for these windows at Chartres.* But the three great twelfth-century

* Since writing these lines a vigorous protest has been made in the *Journal des Débats* as to the way the windows are restored. The writer says:—

Gratter des pierres, sculpter des chapiteaux, sacrifier la vivante beauté d'un monument à la superstition de l'unité de style ou à la manie du dégageant, c'est l'usage traditionnel des restaurateurs. On voit de pareils attentats ailleurs qu'à Chartres; on en voit dans toutes les églises de l'Europe. . . . Mais ici, le crime inexpiable, c'est la

destruction des verrières. On y travaille avec une méthodique barbarie.

Quand on n'est pas entré, depuis quelques années, dans Notre-Dame de Chartres et que l'on y pénètre aujourd'hui, par une claire matinée, on éprouve une affreuse déception. L'ombre émourante qui naguère encore remplissait l'immense église est maintenant dissipée. Une lumière crue et glaciale passe par les baies de la façade occidentale et par les fenêtres du Midi. Évanouit le mystère; éva-

windows in the west façade have been restored with a free hand, and the patina of time has disappeared; yet they are still of fine effect, and are the grandest examples of Romanesque glass existing. The only other piece of twelfth-century work to be found there is the centre panel of "La Belle Verrière." This is a remarkable piece of design, and has presented an enigma so far, inasmuch as it could not be classed with anything else. But medallions lately noticed at Châlons, and another at Angers, mark it as being clearly part of the Rhenish current of design; as there are so many details similar, the various panels must have a similar origin.

The windows in the nave are medallion windows, each over two metres broad and eight high, and about six metres above the ground. There are about twelve of these in the nave and transepts, and a number around the apse. They show a distinct treatment from those of the twelfth century, and the origin of the design requires a separate notice.

The transepts and choir are furnished with a series of windows with large figures calculated to be seen from a distance, and the clerestory continues the series in the nave. There are three large rose windows; and in all there are 125 examples, making this collection the finest in the world.

So great is the beauty of the general impression of the colour associated with the rhythm of the architecture, that it provokes general enthusiasm and delight. While this is truly justified, the full beauty of the work is not seen until it is brought to light by a close attention to small details, which alone reveals the science of design, that makes the work so successful.

Compared with later works of all dates, these windows truly merit the title of precious; nothing has been spared to make them so in materials, workmanship, and design. The glass alone represents the destruction of a thousand tons of wood, for at this epoch glass was made with sand, and ashes from wood, and a whole forest has been burnt to produce these

nouïe la ténébreuse majesté de la cathédrale. De tous les vandaliannes, voilà le plus misérable. Il efface l'immatérielle beauté que répandait sur les vieilles pierres la lueur des vieux vitraux. Il touche à l'âme même de l'église.

Déjà l'on a restauré les vitraux de la rosace occidentale et des trois fenêtres qu'elle surmonte, ainsi que ceux du bas-côté méridional. Maintenant, on travaille dans le déambulatoire. Toutes les verrières y passeront, si le public ne se décide pas à protester contre cette funeste entreprise.

Voici comment procèdent les restaurateurs de vitraux.

D'abord, on démonte le vitrail, opération qui ne s'exécute jamais sans dégâts. Des morceaux tombent sur le pavé de l'église et s'y brisent. Sous une fenêtre où, il y a quelques semaines, on a enlevé un vitrail, tout le monde a pu recueillir des fragments de verre. J'ai ramassé, moi-même, quelques-uns de ces débris. Je me rappelle, d'ailleurs, qu'un jour, entrant dans la charmante église d'Evron (Mayenne), j'entendis un grand fracas de verres cassés: "Qu'est-ce donc? demandai-je au sacristain.—Ce sont, me dit-il placidement, les vitraux que l'on emporte pour les restaurer." Il n'y a aucun inconvénient à briser de vieux vitraux: on remplace les morceaux cassés... c'est de la restauration!

Une fois la verrière démontée, on l'emporte à Paris. Quel traitement subit-elle dans l'atelier du restaurateur? On l'ignore. Mais on sait du moins dans quel état elle en sort. Il suffit de regarder une fenêtre restaurée pour s'apercevoir qu'il n'y a aucune ressemblance entre l'objet qui est parti et celui qui est revenu.

On a récuré ce panneau; on l'a dépouillé de la couche de poussière qui en diminuait la transparence, mais qui lui donnait autrefois ces nuances magnifiques et douces, cette apparence d'un velours sombre semé de pierreries. On en a fait une chose froide, dure et sèche; on dirait un papier coloré, collé sur une vitre blanche.

"Mais, disent les auteurs du méfait, nous nous sommes bornés à laver le verre et à le remettre dans l'état où il était au treizième siècle. Il faut avoir la passion de la

crasse et de la saleté pour nous blâmer de rendre à ces verrières leur clarté et leur limpidité primitives."—Ces vitraux avaient-ils au treizième siècle les mêmes tons qu'ils présentent aujourd'hui après vos lessivages? Le temps n'en avait-il pas modifié les couleurs? Je l'ignore et vous n'en savez rien. En revanche, ce que je sais et ce que reconnaîtra tout homme de goût, c'est que les vitraux qui ont passé par vos mains n'ont ni charmes, ni accent, ni beauté.

On ne s'est pas contenté de les nettoyer et, au fond, ce nettoyage même n'était qu'un honnête prétexte. On les a restaurés, c'est-à-dire qu'on a refait les parties où des morceaux avaient été brisés... Ici, je m'en tiens à quelques réflexions dont chacun pourra conclure ce qu'il voudra.

On voit, comme je l'ai dit, le long des murs de la cathédrale de Chartres de belles pierres sculptées qui appartenait jadis à l'édifice et que l'on aurait pu employer dans la restauration. On ne l'a point fait; du moins on a laissé ces débris au pied de la cathédrale. Quand on a réparé certaines verrières, il y eu sans doute des fragments inutilisés: que sont-ils devenus?... On trouve aujourd'hui sur le marché de la brocante beaucoup de vitraux anciens: d'où viennent-ils?... J'ai même entendu conter que le musée du Louvre vient d'acquiescer un magnifique vitrail du treizième siècle qui n'est point encore exposé dans les salles publiques. Espérons que l'administration des musées nationaux ne l'a point acheté, sans s'être enquis de son origine d'une façon précise et sûre....

Je ne sais si la cathédrale de Chartres dépend du service des monuments historiques ou de celui des monuments diocésains. Que l'affaire regarde M. Dumay ou M. Dujardin-Beaumetz, cela importe peu au public. Mais si des mesures ne sont pas prises par le service "compétent" pour arrêter restaurations, grattages, démolitions, forages et récurages, nous reviendrons sur ces histoires édifiantes: nous n'avons pas tout dit.

windows. The medallion windows of the nave, though so large, are crowded with figures not more than 35 cm. (1 ft. 2 in.) in height. The bars are massive and strong, and are forged into circles, diamonds, quatrefoils, and almonds, and round them run narrow borders worked with classic designs as fine as lace. A true appreciation of the extraordinary delicacy of scale is only to be had by examining the work from the aisle roofs. One can there see the minute pieces into which the glass is cut—about 120 pieces to the square foot—while the leads (where they are original) are 4 mm. wide only. Around the whole are the wide interlaced borders of great variety, and in the interstices of the medallions the most elegant flowing foliage ornament it is possible to design—delicate and subtle, ending in leaf forms of great variety. The figures are lithe and active, the compositions dramatic and admitting of minute investigation; and yet they are as decorative as the ornament. That is, the movements and masses are in relation to the general effect, and are so arranged that the lines, backgrounds, and colour masses form an equilibrium, and are in harmonious distribution. That this should be attained in such a crowd of figures, while yet there is so much interest subjectively, is a triumph of composition. For instance, in the St. Eustace window (north side of the nave) the bottom right-hand panel contains a picture of a servant holding two dogs in his left hand by a leash, in his right a stick. One dog is looking at the other trying to get away. The drawing of the sitting dog is true though it is so small a detail; when on leaving the building we saw a dog pawing some rubbish outside, we recognised the same type in the living animal, which may have been a descendant of that represented in the glass. There is also a scene in this window of a man leaving a house with hat and stick with clothes over it, while a woman looks on with two children, one of whom holds his mother's hand. Even the hat is full of character, and while the house is a mere line, leaving the necessary blue ground showing through, the whole scene is as realistic as it is truly decorative, and denotes a human interest and observation which only a great artist would attempt. It is highly similar to the work on a Greek vase, for with perfect decorative fitness and simple obedience to the requirements of the material, it draws its inspiration direct from the life of reality around.

Even the huge clerestory figures, designed to be seen with little attention and to serve as a means of giving fields of rich colour, are yet drawn with swing and character. And the fact of the colour being so unmistakably sought for as the first element to be considered in these windows leads us better to realise what a large part the question of colour had held in the design of the picture-windows below. It is commonly fancied that the odd attitudes of the figures sometimes found are mere feebleness in means of expression; but when once it is grasped that every minute part has been arranged so as to give an harmonious play of colour-mosaic as an architectural accessory, many of these apparent oddities are recognised as necessities; this *arrière-pensée* is seen to have been continuously at work, so that every particle of ornament and figure is there to act as a colour-carrier apart from anything it might mean.

The general scheme is that of mingled red and blue. All blue would have been cold, all red a glare. The two are made to balance each other, and glints of white and spots of yellow, green, purple, and flesh colour do away with the purple tendency. The leading is so admirably contrived that it is never obtrusive, and could only be arranged by a practical glass designer of accomplished skill in the placing of the parts, so natural is the arrangement adopted.

While the arrangement is so scientific, the rendering of the design is effected in a material of great value *per se*. Many tints they might have made are not found, and those used form an harmonious gamut. The glass itself is thick and of varying thickness, so that it is in structure as well as in its gamut of tones of great beauty. The reds are the streaky varied quality found from the twelfth to the middle of the fourteenth century and never afterwards (though now once again in use in the writer's atelier).

Such was the art of glass painting in the thirteenth century. If Chartres is, at least to-day, the richest centre, work as beautiful is found at Sens, Canterbury, Rheims, Bourges, &c.; and one window signed by a certain Clemens of Chartres is at Rouen. There is evidence that a large number of cathedrals were similarly enriched at this time, and by the time the



CLEMENTINE WINDOWS, CHARTRES CATHEDRAL, THIRTEENTH CENTURY.

new pointed architecture was generalised, glass painting had evidently become one of the expressions peculiar to the art of the epoch.

But this keen interest did not continue indefinitely. It is too much taken for granted that such fine work came to be there quite naturally, with no particular effort behind to produce it. It was not so. The prefaces of Theophilus show that the spirit of the age was such, that men were really working under a potent subjective stimulus, and worked with humility, with a sincere ideal, anonymously, collaborating to a noble end without thought of praise and honour for themselves. As when a bullet hits the mark and we hear its thud, we turn and see the smoke issuing from the rifle as evidence of the power which has sent it

forth, so may we find in the pages of Theophilus evidence of that enthusiasm which alone could produce such fine work. But, further, as no rifle bullet can stay in the air indefinitely, and as it will certainly gradually descend and finally lose all its impetus, so do we see this energy gradually weary and flag. The succeeding fourteenth century is a century of work in great abundance. Windows were made in vast quantities, but the esteem for the art lowered as it became common. The men contemporaneous with Clemens of Chartres died like their predecessors had done, and their successors not only found an art fully fledged, but an ideal already attained. If, then, they carried out the works they were ordered to do, they lost the original impetus of enthusiasm. The later windows of Chartres, even of the thirteenth century, show a falling-off to a considerable extent. The design of the figure work of the Sainte Chapelle is in many cases ordinary and hastily executed, while such work as that found in minor positions as at Varennes is worse still, though it always is produced on the lines of a completely sound tradition, and is estimable for this reason. What was done is excellent in a general way and remains progressive, but the fine point of observation, the care and delicacy of design, have gone. Glass at last becomes merely ecclesiastical in character, and all human sympathy disappears. Further, there was a split between the glass makers and the glass painters, and from the middle of the fourteenth century the quality of the material gets poorer and poorer.

The character of this fourteenth-century work can be seen at Chartres in the chapel at the east end, and in the Church of Saint-Pierre. It is coarse except for some of the ornamental details; the figures are things and not representations of living beings, although the architectural effect is still so good that it seems hypercritical to make such a remark.

While examining the ancient windows at Chartres we may see some modern work. While it is often so well done that only a practised eye can discern that it is a copy of the old as far as the design is concerned; yet it is in total effect very different. This is particularly owing to the character of the glass as a material, and at Amiens, Laon, and Rheims, where there is much modern work, one sees it is generally the case that it is thin and weak as compared with the older examples. In England the windows in "early style" are better; but even there the general effect depends too much on a plentiful use of pigment to imitate the patine of age rather than on the direct use of a really proper material.

Modern glass painting has been revived on the basis of porcelain painting, in which the whole art lay in the painting on a ground of no value in itself, whereas the old art was a mosaic of glass in itself beautiful. And no skill can bridge over the chasm which separates the two systems as long as the mosaic system is maintained, and one is led perforce to do as the old men did, to throw the accent on the painting and not on the glass.

But is it necessarily the case that this noble art must remain in such condition? It is a craft of great elasticity which is capable of receiving developments in other times and centres widely different from those in which it took its origin. Beautiful as the work at Chartres is, it is not and cannot be a final manifestation of an art with such great inherent possibilities. There are principles of beauty we see now which have been perceived by patient students of nature of modern times, which were undreamt of by the mediæval worker, and at the present moment there is new appreciation of decorative art which will unquestionably place glass-painting once again in a high position as an art and not as a manufacture.

We may usefully study then what is worthy of being retained in the ancient practice, and in what way this can be supplemented to express a new ideal.

Their primary aim in old time, as we have seen, seems to have been to give a gem-like effect; only subsequently the idea of the human figure and its action came into view. They did not value what we care for so much—that beautiful quality of tone and colour, that delicate harmony of relationship which we find in the distant landscape on an autumn

day, in deep waters seen by reflected light, in pearls and semi-precious stones. When the strong sapphire- and ruby-like colours gave way to the blues and violets of the Renaissance epoch, it was to make glass painting a veritable painting that was desired, and the separation of glass making from glass painting had placed it beyond the power of the artist to seek the latent beauties in the material. In the intermediate epoch of the fourteenth century, which is much less generally liked, we have architectonic workmanship by rote. It is an epoch of transition from which little can be gathered except perhaps the diapering. The fifteenth century indicates a precious line of research—that of mosaic-like design in light colours—but there everything is subjugated by the ultra-architectural style in which over-done imitations of architecture and over-draped figures without life and subjective interest are all-prevailing.

The early glass growing out of the Oriental and Romanesque tradition is admirable for its purely geometric basis of design, so suitable to mosaic. The relation of figure and ornament is most happy, and the science of colour which dominates all the composition is perfect in its way. But the colour is so full that it renders an interior dark and heavy; it is also a coloration of opposition, and the beauty of analogous hues possible had not been perceived. But one can conceive an arrangement on the geometric basis with other forms of ornament, in lighter colours and with regard to modern perceptions of colour harmony.

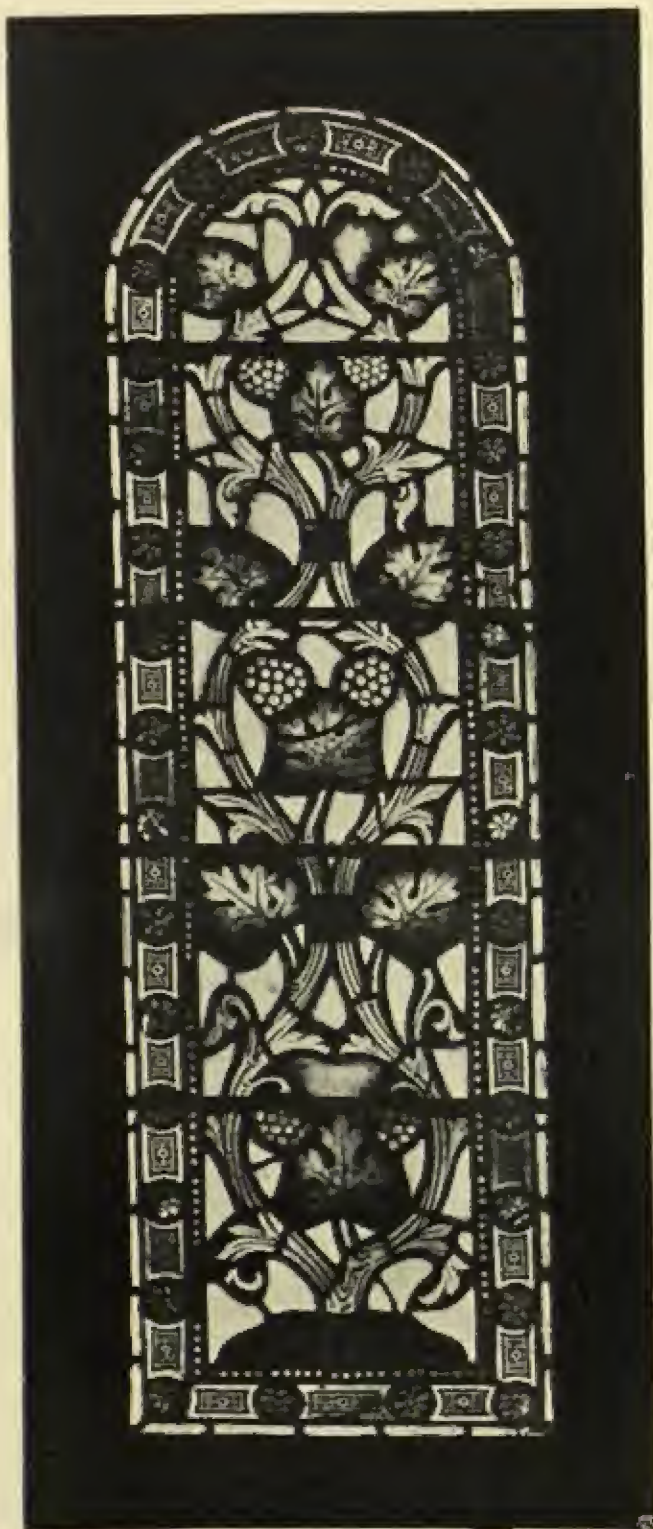
Further, the subjective interest of the figure-work is to us lost. We have no interest in the legendary doings of some obscure saint, nor in the interminable history of some middle-age potentate such as Charlemagne. What we do like is the contemplation of beautiful human form and action manifesting some ethic principle or beautiful event. In fact the right subject for glass painting is the highest form of poetry, and not prose; that ideal of life which seeks to ennoble real existence and send us from its contemplation with renewed energy to try and live our own life worthily.

The beautiful windows of Santa Croce and Maria Novella at Florence, where thirteenth-century technique was used in the early Renaissance, shows what could be done by grafting our own ideas on the strong basis of early tradition. But this example in the history of glass painting was due to the fact that they made their own glass at Florence, and so unconsciously fell to working again in the same spirit as the workers in the thirteenth century.

By a similar play of circumstances the writer has been led into the same position at Neuchâtel. By the mere fact of having to study the production of the glass itself, and the



SAINT-PIERRE, CHARTRES.



WINDOW FOR A ROMANESQUE BUILDING.
DESIGNED AND EXECUTED BY CLEMENT HEATH AT NEUCHÂTEL.

interest evolved by making it, an art possessed for some twenty years has been transformed by this fresh accretion. The ideal is not to paint *on* glass as formerly, but to work *in* glass, now that the material is not rebellious and limited, but lends itself to mental desire with infinite ductility. The American artists have shown what can be done and have worked out a new art also; but they have placed the material too much in the front for one thing, and in another have made glass painting too much a pictorial art, and, having abandoned the decorative ideal, have fallen into the desire of making a picture.

From this aberration—as it must be recognised to be—the study of ancient art will preserve the student, and yet the study of nature and of precious natural stones will show how much further we may go without abandoning healthy principle.

This point of view has been the guide of the writer in designing a series of works now in hand. At Neuchâtel a series of seven windows have been executed for the Romanesque part of the Collegiale; at Strasburg a series of eight windows with subjects are on the point of being completed; at Giez, near Grandson, two windows in a very light key of colour have been placed, one commemorating the defeat of Charles le Téméraire, who pitched his camp near the church; at Lausanne a series of six windows and four roses are in course of execution. In all these, while the design is in every case original and is not copied from anything existing, the spirit of the epoch of the architecture has been maintained, and though new work it is absolutely in harmony with its surroundings. A rare opportunity at Paris has since presented itself in which a new line of work can be invented, there being nothing to fix attention to any known style of glass painting.



2, CONDUIT STREET, LONDON, W., 13th Jan. 1906.

CHRONICLE.

New Institute Premises: Resolution *re* Site.

The elections and other business concluded at the General Meeting last Monday, the motion on the agenda for the evening was duly brought forward by the Chairman of the Meeting, Mr. Edwin T. Hall, *Vice-President*, viz.—“That the Council be instructed to enter into negotiations concerning a site for new Institute premises, and to report to a General Meeting.” In putting the motion, the Chairman said that it had been borne in upon the members of the Council, and he felt sure upon the members of the Institute generally, that the time had come when endeavour should be made to get more extensive premises. They had been very comfortable in their present quarters, but their numbers were greatly increasing—even at the present meeting as many as twenty-seven Fellows and two Associates had been elected—and it was felt by everyone that larger and better accommodation must be obtained for their Library and for their committees, and, generally, a building more suitable for the important work the Institute was carrying on for the advancement of civil architecture in England. The Resolution, it would be noticed, was simply an authority to the Council to negotiate—not necessarily for a specific site, but for a site for better premises. The President in his Opening Address had suggested that there was a site which, among others, had been submitted to the Council. That site was a very important one in Portland Place—undoubtedly a very central and desirable position—and preliminary negotiations for it had already taken place. Nothing, of course, had been definitely concluded; nothing whatever could be concluded without direct authority from the General Body. The present Resolution was brought forward merely to put the matter in order to enable negotiations to proceed; and when they had proceeded to the proper stage, a scheme, or schemes, would be submitted to the Institute in General Meeting for the approbation, or otherwise, of the General Body. He felt sure that the Meeting would consider it reasonable and right that the Council should be instructed to enter into these negotia-

tions with a view to report to a general Meeting and bring before it some definite scheme which they would be justified in proposing.

Mr. WILLIAM WOODWARD [*F.*] asked whether the Council had decided to purchase the freehold, or merely the leasehold of the site.

The CHAIRMAN: The particular site to which the President had referred is a freehold. That, he was sure, would commend itself to the Institute. One of the inconveniences of their present premises was that they were leasehold, and they could not look forward to their permanent occupancy.

Mr. H. HEATHCOTE STATHAM [*F.*]: Does this resolution allow the Council to acquire a site whereon to place the new premises?

The CHAIRMAN explained that the resolution would not be an authority to the Council to conclude a purchase; that (he thought) could not be done, under the Charter and By-laws, until the specific authority of a General Meeting had been obtained for the completion of the purchase. The Council would therefore merely submit to the General Body a scheme for the acquisition of a particular site, and members would then be able to express their opinion for or against it.

Mr. JOHN SLATER [*F.*] having seconded, the Resolution was put to the vote and carried.

Seventh International Congress of Architects.

The following letter, printed in English, French, German, and Italian, to the number of twenty thousand copies, is in course of distribution among the architects of the British Empire and of the various foreign nations which are to be represented at the Congress:—

1st January 1906.

DEAR SIR AND COLLEAGUE,—We have the honour, on behalf of the Executive Committee, most cordially to invite your attendance at the Seventh International Congress of Architects, which will take place in London during the week 16th-21st July 1906.

At the closing meeting of the Bureau of the Sixth International Congress, Madrid, 1904, the Royal Institute of British Architects was entrusted with the task of organising the Seventh Congress in London, and some members of the Royal Institute were added to the British section of the Permanent International Committee to form the basis of an Executive Committee. The Royal Institute of British Architects has added other members, and has thus formed the Executive Committee. It has also appointed a Committee of Patronage and a General Committee. Foreign countries have been invited to appoint their Committees of Patronage, and a complete list of the various Committees up to date is given in the accompanying pamphlet.

We have now the pleasure of laying before you such details with regard to the Congress as the Executive Committee is in a position to make public.

MEMBERSHIP.

As in the preceding Congresses there will be two classes of Members:—

Donors, who contribute £4 and upwards to the funds of the Congress.

Subscribing Members, who pay a minimum subscription of £1,

There will also be a class of "Lady Members," intended to include ladies who accompany members of the Congress. The Executive Committee feel that hitherto the position of ladies in these Congresses has not been satisfactorily defined, and it has decided that it would be better for them to have the right to certain privileges by paying a small subscription. Ladies will then have a Card of Identity, a Badge, and all the privileges of Members, save that of receiving the literature and the Comptes Rendu of the Congress.

The Subscription for a Lady Member will be 10s.

PRIVILEGES.

Members will receive gratis:—

A Card of Identity.

A Congress Badge.

All the Literature issued in connection with the Congress.

The final Comptes Rendu of the Congress.

An Invitation to the Inaugural Meeting.

An Invitation to the Reception by the Lord Mayor of London.

An Invitation to the Garden Party given by the Royal Institute of British Architects.

Invitations to such other Fêtes as may be given by bodies or persons outside the Committee of the Congress.

Members will be privileged to attend—

The Meetings of the Congress.

The Visits, Entertainments, and the Farewell Banquet, on payment, as is usual, of such charges as may be necessary.

The British Railway Companies will issue return tickets to London, available from the 11th to the 25th July inclusive, at the rate of a single fare and a quarter, to members of the Congress. With regard to reductions on Continental Railway Systems, we will acquaint you in due course with any arrangements we have been able to make.

The Chairman and Directors of the London Exhibitions, Ltd., have kindly offered to issue a certain number of invitations to visit the Imperial Royal Austrian Exhibition at Earl's Court (the most popular open-air resort in London) during the Congress week.

The Zoological Society of London have kindly offered admission to foreign Members to their Gardens on the Sundays 15th and 22nd July, days that are closed to the public.

The Royal Botanical Society have kindly offered Members free admission to their Gardens during the Congress week.

Lady Members who are visiting London will be constituted Hon. Members of the Lyceum Club (for ladies).

A Ladies' Committee has been appointed to arrange for the comfort and entertainment of Lady Members.

SUBJECTS FOR DISCUSSION.

The following themes will be discussed:—

1. The Execution of important Government and Municipal Architectural Work by Salaried Officials.
2. Architectural Copyright and the Ownership of Drawings.
3. Steel and Reinforced-concrete Construction:
 - (a) The general aspect of the subject.
 - (b) With special reference to æsthetic and hygienic considerations in the case of very high buildings.
4. The Education of the Public in Architecture.
5. A Statutory Qualification for Architects.
6. The Architect-craftsman: How far should the Architect receive the theoretical and practical training of a Craftsman?
7. The Planning and Laying-out of Streets and Open Spaces in Cities.
8. To what extent and in what sense should the

Architect have control over other Artists or Craftsmen in the completion of a National or Public Building?

9. The Responsibilities of a Government in the Conservation of National Monuments.

10. The Organisation of Public International Architectural Competitions.

The Executive Committee will be glad to receive Papers on any of the above subjects for presentation to the Congress. Papers may be written in English, French, Italian, or German.

Each Paper must be accompanied by an Abstract of not more than 1,000 words.

Papers and Abstracts must reach the Executive Committee before the 30th April 1906.

These Abstracts will be circulated as far as is possible among Members before the Meetings, and will be distributed in the Meeting Hall.

In addition to the above themes, Professor Meydenbauer, of Berlin, has offered the Congress a valuable Paper on "Messbildverfahren," or the obtaining of exact Measurements of Buildings by means of Scientific Photography.

LANGUAGES.

The Languages of the Congress will be English, French, Italian, and German.

The Papers contributed will be printed in whichever of these four languages they are written or translated into, and will so appear in the Comptes Rendu.

The Abstracts will be printed in English and French.

The Notices issued during the Congress week will be in English and French.

Several Gentlemen will give their services during the Congress as Steward-interpreters, and as they will wear coloured ribbons to indicate the languages with which they are conversant, Foreign Members will have no difficulty in finding them.

VISITS AND ENTERTAINMENTS.

The Rt. Hon. the Lord Mayor of London will entertain the Congress at a *Conversazione* at the Mansion House on the evening of Tuesday, the 17th July.

The Royal Institute of British Architects will entertain the Congress at a Garden Party.

Visits will be arranged to:

*The University of Oxford and the University of Cambridge.

*Greenwich Hospital and Hampton Court.

Hatfield: the Residence of the Marquis of Salisbury.

London: Monuments; Historic Houses; New Buildings; Work Yards; Schools of Architecture, &c.

The Art Workers' Guild will put an evening at the disposal of the Congress.

There will be the usual Farewell Banquet on Saturday the 21st July.

EXHIBITION.

There will be an Exhibition held in connection with the Congress and organised by the Executive Committee, the chief features of which will be:

- (1) A Chronological Exhibition of English Architecture from the Norman Conquest (1066) to the death of Sir Charles Barry (1860).
- (2) Oil Paintings and Water-Colour Drawings of English Architecture.
- (3) English Furniture and Silver Work.

MISCELLANEOUS.

We have the pleasure to enclose a Form of Membership, which we hope you will be able to fill up and return, together with your cheque or postal order.

Should you definitely intend to join the Congress, it would be the greatest possible convenience to the Com-

* These visits will take place simultaneously.

mittee if you could do this at the very earliest date. If by ill-chance you find yourself later compelled to withdraw from the Congress, your subscription will be returned to you.

Should you, however, be unable to decide at present, but would like to be reminded later, will you kindly return the enclosed postcard with your name and address?

To avoid mistakes in spelling and other errors, we venture to request you to let us have your Name and Address printed, either on your letter paper or your visiting card.

All communications should be addressed, and all cheques and postal orders should be made payable, to "The Secretary, Seventh International Congress of Architects, 9 Conduit Street, London, W."

We sincerely trust that your engagements will enable you to take part in this International gathering, where men of all nationalities will be bound together in friendship and fellowship by the common bond of the great Art which is so dear to us.

We have the honour to be, dear Sir and Colleague,

Yours very faithfully,

JOHN BYLCHER, *President*,
W. J. LOCKE, *Secretary*.

The foregoing letter, with the other Papers referred to therein, in the languages indicated, is being distributed as follows:—

ENGLISH.		copies
Great Britain and Ireland		7,500
United States		1,500
Denmark		250
Sweden		200
Norway		50
Ontario		200
Quebec		150
New South Wales		100
Victoria		100
New Zealand		100
Cape Colony		100
Transvaal		50
Natal		50
FRENCH.		
France		3,000
Spain		550
Russia		500
Belgium		400
Holland		350
Portugal		200
Switzerland		150
Mexico		100
ITALIAN.		
Italy		2,000
GERMAN.		
Germany		1,000
Austria		200
Norway		50

The Papers for abroad have been consigned in parcels to the Secretaries of the Colonial and Foreign Architectural Societies and of the Sections of the Permanent International Committee of the Congress, who have very kindly undertaken their distribution, and to defray the cost thereof, in their respective countries.

* * *Members of the Institute paying their annual subscriptions, and sending at the same time subscriptions as members of the Congress, are requested to be so kind as to draw a separate cheque for each account.*

Building By-Laws in Rural Districts.

The following letter has been addressed to rural district councils by the Local Government Board:—

5th January.

Sir,—I am directed by the Local Government Board to state that it appears from a Parliamentary Return which they have recently caused to be prepared, relating to the by-laws with respect to new streets and buildings in force in the rural districts of England and Wales, that throughout the whole of 169 and in parts of 114 rural districts, by-laws are in force based on what is known as the Urban Model Series. This series is a comprehensive one, including clauses on most of the subjects upon which urban district councils are authorised under section 157 of the Public Health Act, 1875, to make by-laws.

Since the issue of this code, which was primarily intended for use in urban districts, it has been strongly urged that its adoption in districts which are of a rural character has led to interference with reasonable building operations, and the Board feel that a series of by-laws so extensive as the Urban Model is not necessary for a district or part of a district quite rural in character, where little building is going on and aggregations of population are not likely to develop in the near future. In such cases it is considered that a less elaborate code of building regulations would generally be found sufficient. In order to meet the requirements of such localities the Board in 1901 compiled a model series of building by-laws for rural districts, dealing only with the subjects which appeared to them to be most in need of regulation and control in such districts from a sanitary point of view. This series has commended itself to rural district councils in a large number of cases, and, as appears from the Parliamentary Return, by-laws of the character of this model have already been adopted throughout 100 and in parts of 32 rural districts.

The Board are aware that there are in not a few rural districts areas possessing urban characteristics, or containing considerable aggregations of rapidly-growing populations, for which a more comprehensive series of by-laws is desirable. Indeed, in areas of this kind, the by-laws might properly and desirably approximate to those in force in urban districts. Parts of rural districts having such special circumstances can always be separately dealt with if such areas can be suitably defined. But the Board think it probable that amongst the rural districts in which the Urban Model Series is in force there are many parishes or other areas which cannot be said to have urban characteristics, and in which the by-laws in some respects impose undue restrictions on building and are more onerous than the circumstances require.

The Board are desirous that no obstacles should exist which can properly be avoided in the way of an extension of housing accommodation, whether by local authorities or private persons, and the object of this circular is to secure that whilst sanitary requirements should be strictly observed, all unnecessary impediments in the development of building should be avoided.

The Board would be glad if the rural district council would carefully review the circumstances of their district for the purpose of seeing whether any modification of the present by-laws is desirable, and whether any part of the district might more suitably be placed under a series based on the Rural Model, or, if this is not thought suitable, by such a series supplemented by a limited selection of clauses from the Urban Model. In some cases relaxation has already been given by a clause exempting detached dwelling-houses from certain of the restrictions as to the construction of walls. Even where it is considered that the full code of by-laws should be retained, the existing by-laws, unless made very recently, might

with advantage be reviewed in connection with the latest form of the Urban Model. This contains many additions and modifications based on the experience of the working of the old model, and at the same time is framed so as to give more elasticity in the administration of the by-laws.

The Board wish to be informed of the result of the consideration of this letter by the rural district council, and they will be pleased to supply draft forms for use in connection with any revision of the present by-laws and to afford any information which they have at their disposal on the subject of by-laws of the kind in question.

I am, Sir, your obedient servant,

S. B. PROVIS, *Secretary.*

Aldwych and the Strand.

The Times of Christmas Day, in an article dealing with the new endeavour that is being made by the Further Strand Improvement Committee to induce the London County Council to revise the line of frontage chosen for the improvement, had the following remarks:—

So far the County Council has steadily refused, on grounds of economy, to adopt any alteration of the scheme. . . . No doubt it has been fortified in this case by the failure of the Council to let the sites up till now. But from the most purely utilitarian point of view it might be a mistake to risk depreciating the value of the site by marring its attractiveness. . . . Though the change may fairly be defended on economic grounds, its true value and importance are something very much wider. London has a great chance of making one of its most characteristic thoroughfares really worthy of the capital of the Empire. If the chance is taken, we shall have something which will delight the eye, instead of offending it, and which will also preserve those two historic monuments, the Strand churches, in their due position of predominance. If we throw away the chance, we shall have another architectural failure. It will be a failure more lamentable and conspicuous than those creations of the Board of Works—Shaftesbury Avenue and Charing Cross Road—just because the site is more important and the chances of success or failure are so much greater. We may be quite certain that future generations will care very little how much the County Council saved by its sixty extra feet of frontage, if the Strand is permanently spoiled for them. This is a time when efforts are being made, and not unsuccessfully, to endow London with a beauty worthy of its greatness. We sincerely trust that the County Council will not ignore these aspects of the case, and will be willing, at the eleventh hour, to reconsider a decision which, for good or evil, must have such genuine importance.

With reference to the above the following letter from the President appeared in *The Times* of the 28th ult.:—

SIR,—The architectural questions raised in your article of Monday's issue in respect to the Strand improvement have an importance which will be appreciated by the public generally.

Hitherto artistic considerations have not been taken into much account in dealing with lines of frontage; but the present case is of such extreme importance that architects, painters, and sculptors and others interested in the beauty of this great city are practically united in urging their claim.

The County Council has admitted that the several schemes brought before it would be improvements upon the present "building line," but have refused to adopt any one of them on account

of some loss of ground. The Royal Institute of British Architects pointed out that this would mainly consist of "back land," and the loss might be made good by a reduction in the width of the two foot-passages dividing the site. They further drew attention to a very utilitarian point, but one which should appeal to the practical mind. The traffic proceeding eastward has by the present line to pass round a promontory, which blocks the direct line of route. This is a grave defect, and one which it would appear is still more observable since the erection of the Gladstone Memorial.

It is perhaps natural that the Finance Committee of the County Council, which has had the several improvements suggested under consideration, should deal merely with actual figures before it, and that it should thus have failed to realise that, by securing beauty, grandeur, and dignity, the value of the property as a whole would be considerably enhanced.

In the absence of a Minister of Fine Arts, who would deal with such questions, the County Council might well appoint a strong committee of architects, painters, and sculptors, with one or two members of its Finance Committee, to reconsider the strongly expressed views of the public, which you have so ably pleaded.

I feel sure such a concession would meet with general approval; and, if any increased expenditure be incurred by the adoption of an improved line at the eastern end of Aldwych, in this case at least it would not be accounted an extravagance.—I am, Sir, yours faithfully,

JOHN BELCHER.

The British School at Rome.

The first open meeting of the British School at Rome for the current season was held in the library of the school on the 4th inst., and was attended by the British Ambassador (Sir E. M. Egerton, K.C.B.), a member of the managing committee of the school, and by foreign scholars and British residents in Rome. The assistant director (Mr. T. Ashby, jun.) read a paper upon "Sixteenth-century Engravings illustrative of Roman Sculpture." The subject has a special importance, in view of the fact that the school has undertaken the compilation of a catalogue of the Capitoline museums. Mr. Ashby illustrated the value of the evidence of engravings in regard to restorations which some sculptures have undergone since their discovery, and as giving information of their origin; and he dealt with the various collections of engravings of sculpture, and especially with those incorporated in the *Speculum Urbis Romæ*. He then exhibited a copy of the first edition of the wood block plan of Venice in six sheets, bearing the date 1500, and attributed by many authorities to Jacopo de' Barbari, though without decisive evidence. It is perhaps the finest work of its kind in existence. Mr. Wace, librarian of the school, followed with a discussion of two historical reliefs from the Villa Borghese, now in the Louvre—one representing an

extispicium before the temple of Jupiter Capitolinus, the other showing the sacrifice of two bulls. With them he connected a fragment in the Villa Medici, and others, now lost, but drawn by Puvion in the sixteenth century, and proceeded, by the combination of various Renaissance authorities, to demonstrate the provenance of the whole group from Trajan's Forum, about 1540. They seem to have passed into the hands of Prospero Boccapaduli, who was in charge of the building of the Capitoline palaces from 1555 onwards, and to have been dispersed after his death. In style the *extispicium* relief has a close affinity with the Trajanic battle scenes on the arch of Constantine, while the other may be attributed to the time of Marcus Aurelius. Professor Hülsen, second secretary of the German Institute, emphasised the importance of the discovery in regard to the architecture of Trajan's Forum.

Architects' Benevolent Society.

Mr. Wm. Glover [F.], who promised a donation of £50 to the Society if £450 were received in donations before Christmas, in response to the President's recent appeal, has extended the time limit to the 15th February 1906.

The profits of the A. A. Students' Smoker Concert on 2nd February will be mainly devoted to the funds of the Society. Tickets, 2s. 6d. each, may be purchased from the Librarian of the Institute.

Honours and Appointments.

Sir ASTON WEBB, R.A., has been elected Corresponding Member of the Royal Academy of Belgium.

Mr. SOLOMON J. SOLOMON [H.A.] has been elected to the full rank of Royal Academician.

REVIEWS.

RENAISSANCE ARCHITECTURE.

Character of Renaissance Architecture. By Charles Herbert Moore. 8vo. London and New York, 1905. Price 12s. 6d. net. [The Macmillan Co., London and New York.]

This book, by the Professor of Art at Harvard University, may be described as an analysis of the artistic qualities of the architecture of the Renaissance, and forms a sequel to his *Development and Character of Gothic Architecture*, reviewed in the JOURNAL for 7th April 1900. His point of view and the general conclusions at which he arrives may be briefly indicated by a few extracts.

The Renaissance movement in architecture first shows itself in the dome of the cathedral at Florence. We all know how this cathedral had been left unfinished by Arnolfo at his death; how Brunelleschi, the goldsmith, set his heart upon being appointed to complete it; and how, at

last, his wish was gratified, and the erection of the dome was placed in his hands. In the designing of this dome Brunelleschi was subjected to two principal influences: first, the ancient tradition as illustrated in the Pantheon; and secondly, the mediæval tradition as illustrated in the dome (if it can be so called) of the Baptistery at Florence. Of these the first was the less important. "It has been common," says Professor Moore, "to speak as if the master had been chiefly inspired by the ancient monuments of Rome, and had taken the Pantheon as his principal model. But although he came to his task fresh from the study of the ancient Roman monuments, and undoubtedly had the Pantheon in mind, yet the dome which he produced has little in common with that great achievement of Roman constructive skill. . . . The model to which it most closely conforms, notwithstanding the obvious and essential points of difference, is that of the Baptistery, [and] a comparison will show that the dome of the cathedral, with its supporting drum, is, in fact, little other than a reproduction of the Baptistery of San Giovanni in a modified form and enlarged proportions raised over the crossing." The dome of Santa Maria del Fiore, then, must be considered as more a product of the middle ages than of the classic revival, and it is, says Professor Moore, "indeed a remarkable piece of construction, and no less remarkable as a work of art." But he hastens to add: "Yet with all its mechanical and artistic merit the scheme is fundamentally false in principle, since it involves a departure from sound methods of dome construction. A bulging thin shell cannot be made secure without abutment, much less can such a shell sustain the weight of a heavy stone structure like the lantern of this monument without resort to the extraneous means of binding chains; and a structure of masonry which depends for stability on binding chains is one of inherent weakness, and thus of false character." Brunelleschi, then, worked upon wrong lines, and the result, although in many ways admirable, cannot be properly considered as an entirely noble and exemplary work of art.

Less satisfactory, in Professor Moore's view, is the dome of St. Peter's. It is, he says, entirely indefensible from the point of view of sound construction, and though it is an imposing object, and has been almost universally lauded, it is nevertheless a monument of structural error, and can make no pretence to the possession of true architectural beauty, as it violates the true principles of organic composition.

The last notable attempt to solve the great dome problem was made at the rebuilding of St. Paul's by Wren, who, being aware of the constructive weakness of the earlier Renaissance domes, reverted to the classic method and sank his dome within the drum. He was expressly ordered, however, to make "a dome conspicuous above the houses," as the author of *Parentalia* tells us; he therefore covered his masonry dome by a high

wooden dome crowned by a stone lantern fifty feet high, which latter he supported by a cone of brickwork built between the two domes. This system of construction is briefly summed up by Professor Moore as "a monstrous architectural deceit," and therefore, although in general external effect the dome of St. Paul's has much merit, yet it must be considered as lacking true architectural beauty.

Thus the three great domes of the Renaissance are failures; and the great dome problem with which the architects of the Renaissance had struggled from the time of Brunelleschi onwards remains unsolved; it is, in fact, says Professor Moore, a problem incapable of satisfactory solution.

And not only did the architects of the Renaissance fail in their domes, but also, Professor Moore tells us, in everything else they attempted. As long as the mediæval tradition survived there remained a certain genuine charm arising from straightforward logic of construction; but when this disappeared, swept away by the foul torrent of the Renaissance—to use Ruskin's phrase—its place was taken by the mechanical and arbitrary rules embodied in the writings of Vignola, Palladio, and the rest; architectural vitality was swallowed up of mere formalism; and the artistic co-ordination of structural parts, which Professor Moore considers as almost the essence of true architectural beauty, ceased to be a governing principle of design.

Briefly, then, the Renaissance has no claim to be considered a thoroughly noble system of architecture comparable to the Greek, the Byzantine, or the Gothic. It is, for the most part, a mere surface decoration, taking little account of structural propriety. It was practised, often enough, by men of little genuine artistic inspiration; such men as Sansovino, Sanmichele, Vignola, Palladio, and Scamozzi in Italy; De l'Orme, "a man devoid of true artistic genius," in France; and Inigo Jones, whose work is "pre-eminently theatrical," in England. And finally our author tells us that his book has been written to correct "the unqualified and shortsighted laudation of this architecture by the sophisticated writers of the sixteenth century," whose views have hitherto been too readily accepted.

This, in necessarily brief outline, is, one believes, a fair statement of Professor Moore's conclusions. Whether they will obtain general acceptance is, perhaps, doubtful; but, however that may be, one must certainly compliment him on the care with which his book has been written, and upon the excellence of the illustrations with which it is adorned. One or two slight errors in the text may be noted. On page 171 we read of changes being "wrong," which is surely incorrect; and on pages 218 and 232, and also in the Index, the name of the author of *A History of Renaissance Architecture in England* is incorrectly spelt. On page 218 it is suggested that Thorpe may have been influenced in the design of Kirby Hall by Du Cerceau's project for the Château of Charleval; but this hardly

seems possible, for Du Cerceau's book in which the design is figured (the château itself was never completed) was published in 1576, whereas a note by Thorpe on the original plan of Kirby Hall, preserved in the Soane Museum, states that the first stone was laid in 1570.

Erdington.

BENJAMIN WALKER.

MINUTES. V.

At the Fifth General Meeting (Business) of the Session 1905-06, held Monday, 8th January 1906, at 8 p.m.—Present: Mr. Edwin T. Hall, Vice-President, in the Chair, 23 Fellows (including 10 members of the Council), and 16 Associates (including 1 member of the Council), the Minutes of the meeting held 18th December 1905 [p. 116] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted and signed the respective registers:—Professor Ravenscroft Elsey Smith and Edgar Sefton Underwood, *Fellows*; George Leonard Elkington, *Associate*.

The Hon. Secretary drew attention to a list of works recently presented to the Library [see *Supplement*], and a cordial vote of thanks was passed to the donors.

The following candidates were elected to membership in the various classes by show of hands in accordance with By-law 9:—

As FELLOWS (27).

REGINALD BLOMFIELD, A.R.A., M.A. Oxon., F.S.A.
WALTER CAVE.
HOWARD CHATFIELD CLARKE.
ROBERT BURNS DICK (*Newcastle-on-Tyne*).
WILLIAM HAWKE [*Assoc.* 1895] (*Cape Town*).
GERALD CALLCOTT HORSLEY [*Owen Jones Student* 1887, 1888].
BENJAMIN SEPTIMUS JACOBS.
PROFESSOR WILLIAM RICHARD LETHABY [*Soane Medallist* 1879, *Pugin Student* 1881].
EDWIN LANDSEER LUTYENS.
MERVYN EDMUND MACARTNEY.
WILLIAM CECIL MARSHALL, M.A.
EDWARD JOHN MAY [*Pugin Student* 1876].
JOHN HOWARD MORGAN (*Carmarthen*).
ERNEST NEWTON.
SEGAR OWEN [*A.* 1896] (*Warrington*).
AMBROSE MACDONALD POYNTER.
EDWARD SCHRODER PRIOR, M.A., F.S.A.
HALSEY RALPH RICARDO.
CHARLES JAMES TAIT [*Associate* 1882].
ROBERT JOHN THOMSON [*Associate* 1894].
THOMAS HARRISON THORPE (*Derby*).
WILLIAM TURNEULL (*Wellington, New Zealand*).
HUGH THACKERAY TURNER, F.S.A.
EDWARD PRIOLEAU WARREN, F.S.A.
LOUIS ALFRED WESTWICK (*Mansfield*).
FRANCIS ALBERT WHITWELL.
WALTER HENRY WOODROFFE [*A.* 1883].

As ASSOCIATES (2).

JOHN ARCHIBALD LUCAS [*Qualified for Associateship* 1899] (*Exeter*).
WILLIAM DATHY QUIRKE [*Probationer* 1901, *Student* 1902, *Qualified for Associateship* 1905].

As HON. CORRESPONDING MEMBER.

MARTIN NYROP, Member of the Royal Academy of Arts, Copenhagen, Commander of the Dannebrog, &c. (Copenhagen).

The Secretary announced that by a resolution of the Council under By-law 20 Mr. Frederick Ernest Eales had ceased to be a member of the Royal Institute.

The Chairman having moved, and Mr. John Slater [F.] having seconded, it was unanimously

Resolved, That the Council be instructed to enter into negotiations concerning a site for new Institute premises, and to report to a General Meeting.

The proceedings then closed, and the Meeting separated at 8.25 p.m.

ALLIED SOCIETIES.

THE NORTHERN ASSOCIATION.

Presidential Address: Newcastle Improvements.

The inaugural meeting of the Session of the Northern Architectural Association was held the 22nd November, when the President, Mr. J. T. Cackett [F.], delivered the following Address:—

COLLEAGUES AND GENTLEMEN,—My first thought this evening—the first meeting since you elected me to the Presidential Chair—is to thank you for the honour you have done me. My diffidence in accepting the office was due to the knowledge that there were others better qualified; but having accepted the position, I trust I may be able satisfactorily to fulfil the duties and responsibilities—duties which have already been greatly lessened by the assistance of our worthy Secretary, Mr. Plummer.

My next wish is to congratulate the Association upon its continued growth. Our total membership at the date of the last Annual Report was 220. It is now 224, the largest in the history of the Association.

We deplore the loss of two of our former Presidents, Alderman W. H. Dunn and Mr. Frank Caws, who have passed from us. The loss to the Association and to the profession generally is considerable, and will be greatly felt.

Mr. Dunn joined the Association in 1865, and was President for the year 1884-85, and he then strenuously advocated the views previously expressed in a Paper read by Mr. Joseph Oswald, namely, the desirability of establishing the Association on a more practical basis, and so giving it a more prominent position: rooms of our own, a library, the publication of proceedings, and also suggested visits to Carlisle, Sunderland, Darlington, &c., the last for the purpose of promoting and increasing the proper feeling of fellowship amongst members of our profession. It was some years before his death that Mr. Dunn dropped out of our councils, but he always displayed a warm interest in the welfare of the Association. The Paper he read before the Association in October 1889 entitled "Architects as Scientists" was most characteristic of the man. The last occasion on which many of us met him was the funeral, in April last, of Frank Caws, whom he survived little more than a month. Frank Caws first joined the Association, I think, in 1880, and was President

for the years 1901-02 and 1903-04. His abilities were of a high order. He was a delightful companion and a gentleman whom to know was a privilege. His death has been a great loss to the Association and to the profession.

In November 1895 our past President, Mr. Oswald, in his Presidential Address, when referring to the good to be derived from our visiting the towns in the area assigned to us, said: "I think it would be well if the R.I.B.A., with which we are allied, could see its way to hold an occasional meeting in one or other of the provincial centres; and I am glad to note that it is on the carpet to hold such a meeting in Manchester during the coming spring. I hope this may prove the forerunner of many similar excursions of the Institute, and that in no far distant year this Association may be able to invite and welcome to this city a representative gathering of British architects."

We all agreed with these sentiments, and have been glad to see that the Institute has made it a practice to visit a provincial centre occasionally; for by the leading members of the Institute visiting and making themselves conversant with practice in the provinces much will be done towards removing difficulties, and progress will be made towards uniting the profession, which is the aim of us all.

We can now congratulate ourselves upon the fact that the President, Council, and a large body of the leading members of the Institute from all parts have honoured the Northern Architectural Association with a visit, and it did not take long to learn that our former idea of the Institute Council being composed of formal, inaccessible gentlemen was quite a myth. I am sure that such gatherings will go far to consolidate the profession. There was no set conference, but we had continual opportunities for individual discussion, and I feel certain that the burning subject, Registration, received a large share of serious consideration.

I would like to add that in my opinion more good would result, in proportion, if the time of future visits to provincial cities could be extended and a few hours given each day for the discussion of matters of moment. Our responsibilities are increasing daily. At no period has progress been so rapid. Time is of the essence of every contract; commissions are given, and the work must be carried out almost before one has reasonable time to consider a scheme. How much more, therefore, is it necessary that we should have the opportunity of meeting our professional brethren and discussing with them subjects of interest to our mutual advantage.

In addition to the honour of entertaining the R.I.B.A., I have further to congratulate the Association upon another happy event. I refer to the opening of the Association's rooms on the 12th October last by the President of the Institute. I am sure it must be a great comfort to Mr. Glover to know that almost entirely through his generosity and thoughtfulness the Association (in

which he has always taken a great interest) is now housed in such suitable apartments. I desire, with your permission, to record our grateful thanks to our past President for his handsome gifts, and trust he may long be spared to see the Northern Architectural Association benefit by them.

The Northern Architectural Association has made great advances during the past twenty years, in spite of difficult and trying circumstances—viz. small funds, no office and meeting-room accommodation or library; but now, with all these defects remedied, we have every convenience for increased usefulness and work, and I hope this may mark the beginning of a period of much greater progress.

Knowing the interest that the members of this Association take in the subject of Registration, I feel you may expect me to comment on the latest developments. You are aware that the last Registration Committee reported to the Institute in favour of, and submitted, a draft Bill for Parliament. The new Committee, however, are of opinion that the time is not ripe for this, and that to proceed on these lines would only court defeat. They have therefore appointed a Sub-Committee, consisting of four of its most qualified members who are strong non-registrationists, and also four of the strongest registrationists, with the President as Chairman, to take evidence on the subject. I understand all architects, whether members of the Institute or not, are invited to give evidence for and against compulsory registration, and to tender suggestions which may assist the Sub-Committee to draw up the best scheme.

This means of dealing with the question is, in my opinion, a fair and good one theoretically; and although the provinces are not represented on the Sub-Committee, Mr. Hubbard and Mr. Cross, two of the members, have taken infinite pains to acquaint themselves with provincial grievances, and the provinces will not, I think, suffer for the lack of direct representation. It may, however, be difficult for country members to go up to London to give evidence, and to overcome this as far as possible I suggest that each Association should hold meetings of its members promptly, take evidence (which should be systematised by a committee), and send one or two of its members to London to attend the inquiry. The evidence from the provinces is the most difficult to get, and yet the most necessary; but the supplying of it must not be allowed to unduly delay the inquiry.

Gentlemen, I was much impressed by the President's appeal, and his remarks in his Opening Address at the Institute on behalf of the Architects' Benevolent Society. I am afraid our profession at present is a somewhat uneven one, so far as the success of its members is concerned. May I ask all who are able, to contribute something to the Benevolent Society's funds, which are carefully and properly applied to the most deserving cases?

There are so many subjects of public interest

pressing for consideration that we are concerned in that I have had some difficulty in deciding that upon which to address you this evening. The subject I propose to speak upon is of great importance; but while my general observations apply to all towns, the details concern Newcastle only, and the urgency of the matter must be my excuse to my brethren from other towns in the northern province.

I have heard it stated by past Presidents that Presidential Addresses are too general in their scope, and do not deal with the local conditions of our work as they should. I will act upon the suggestion. Some of my proposals may be utopian; still, I will treat largely of the real and everyday considerations of local practice.

NEWCASTLE IMPROVEMENTS.

The theme which I offer for consideration this evening is the planning of this important city. I propose to remind you of its plan and extent in the year 1840, compared with the requirements of that time; to review the public improvements which have been made since, and to compare them with the growth of population and business, and the increase and change of traffic; and to draw a parallel. I will then endeavour to apply this to improvements now in progress, and consider whether they have been planned with that foresight and artistic thoughtfulness which the great importance of the works demand; and, later, to submit for your consideration a scheme, which at first blush may appear fanciful, but which on deliberation may commend itself to you as desirable and beneficial, for the development of the district treated and for the good of the city.

In the year 1840 Richard Grainger had practically completed his reconstruction of the town, under the guidance of our first President, Mr. Dobson. It may here be interesting to note that his first work early in the century was to build Higham Place (in which is our new home) for Mr. Wm. Ratson, who so named it after Higham Dykes, his Ponteland estate. It is instructive to read the history of Grainger's progress in beautifying the town from 1820 to 1840; it affords a great lesson for all. I would advise the younger men to obtain Mr. Oliver's plan of 1880 (wherein they will find only Blackett Street and Eldon Square completed) and compare it with his plan of 1844, where we find the town delineated practically as most of us remember it. Between 1834 and 1839 (when the Central Exchange News Room was opened), Grey Street, Shakspeare Street, Hood Street, Market Street, Grainger Street, Clayton Street, Clayton Street West, Nun Street, and Nelson Street were built, and took the place of the old brick and timber hovels—examples of which yet remain in one or two of the narrow lanes in the city. It is unnecessary to review the conditions of life and business then; but before 1840 we had not the electric telegraph—the palmy days of the

stage coach were passing away before the development of railways. The railway from Blaydon to Hexham was opened in 1835, but it was 1849 before the High Level was opened, and in 1850 before the Central Station was completed. The electric cable did not come into use till 1854.

The population of Newcastle, which already had taken in Byker, Heaton, Jesmond, Elswick, and Westgate, was only 70,337, with a rateable value of £181,643; but Grainger was bold and far-seeing enough not only to carry out façades that any city yet would be proud of, but to lay out Grey Street from 70 ft. to 75 ft. wide, Blackett Street (almost his earliest) 68 ft. to 70 ft. wide, Grainger Street about 60 ft., and the other streets of a similar width, all much more than the requirements of the time demanded.

Considering that this work was done seventy years before the Report of the Royal Commission on London Traffic appeared, and the Market Street extension of our Corporation (which, by the way, was originally proposed to be only 50 ft. wide), and, of course, bearing in mind the altered circumstances and increased traffic, I am forced to the conclusion that we are as much behind the times now as our predecessors were in advance of their day.

Since the above date to 1903, when the city boundaries remained the same—i.e. before the recent extension, the population had increased from 70,337 to 222,241, and the rateable value from £181,643 to £1,390,799—more than three times the population, and over seven times the rateable value—while the number of inhabited houses increased from about 10,000 to 40,000.

During this period we have seen the advent of electric light (1878), telephones (1878), horse trams, in turn to give way to electric trams (1883). Railways have been developed to an enormous extent, and now electric railways (1892), all more or less bringing traffic to the streets of the city. Can we for a moment suggest that we have kept the city by development as much in front of its requirements as it was in 1840? I have looked through all the Corporation Bills since 1837, but even an epitome of the proposals (many most desirable that have been allowed to lapse) would be more than sufficient matter in itself for an address. The improvements which have been effected are of course considerable—some new roads such as Queen Street and Lombard Street (built after the fire in 1854), Grainger Street West between 1865 and 1870, and Walker New Road, Park Terrace, Camden Street Bridge, Northumberland Road and Gresham Place, City Road, &c.; and many widenings of existing roads, such as Jesmond Road, Westgate Road, Hedley Place, Gallowgate, Osborne Road, Elswick Road, &c.; but when we look back at these works, can we say they did anything more than provide for the bare necessities of the time; and were these works

done before they were absolutely forced upon the authorities by the congestion of traffic? Has anything been done to really cope with this congestion, and to meet the probable great increase of traffic in the future by providing thoroughfares of ample width, and open spaces which would in addition beautify and adorn the city?

We have, or had, a high standard to maintain, for so great an authority as John Dobson said in 1859: "Since the commencement of the present century architecture in the northern counties has, I think, been somewhat in advance of most other districts." There can be no doubt that Newcastle from 1840 to 1860 (before the abominable practice of obliterating a façade with enormous gilt letters and illuminated devices became the fashion) could compare most favourably with any city in Great Britain for fine streets, and was far ahead of any other town of its size. As I have said, it has increased threefold in population and sevenfold in value; but can we point to a proportionate increase of streets of the quality and grace of those of 1840, in spite of the great development of education and artistic training?

Newcastle is so situated that its centre is much nearer the mathematical definition of the word than in most towns; consequently, with the great extension of the suburbs during the last twenty-five years, and the probable greater increase in the near future, is it not being forced upon us to consider in what way we may multiply the thoroughfares near that centre to provide for both the increased traffic and the multitudes who now come to shop who never did in the past; and thus, so to speak, increase its practical area?

The traffic has increased to almost alarming proportions. Only a few years ago we were content to wait ten minutes for a horse car, and there were four routes drawing from Scotswood, Westgate, Gosforth, and Byker; but now we have twenty-five or more routes, with electric cars running rapidly at very short intervals, and not only supplying the centre from the circumference, but drawing from towns beyond, such as Wallsend, North Shields, and Gosforth, with every likelihood of extension to towns further west and north at an early date. In addition, Gateshead, with its population of 110,000, has its system of electric cars drawing large crowds from its boundaries and towns beyond, to its centre, and a very large proportion find their way to the north side, and thus augment the numbers in our streets. In addition to the tram service, making it easier for residents to come into the centre, the trams have proved a serious addition to the congestion on the roads. We also now have an excellent service of electric trains which (while not themselves interfering with the roads as in the case of cars) tend to increase the suburb area, and thus indirectly congest the centre; and, further, the great development of mechanical traction on the roads must

be provided for. This last method of locomotion is daily being more and more used for commercial and private purposes, and these together will quickly force the authorities to consider the subject of the management of traffic in and near the centre of the city.

The traffic in all cities may be divided into two kinds:—First, the through traffic; and second, the terminal or stopping traffic. Now, unless we have thoroughfares 100 feet wide at least, capable of accommodating four rows of trams, it is hopeless, with only the street surface for traffic, to satisfactorily conduct the through and stopping traffic on one thoroughfare; and since in the centre of the town we cannot now hope to widen our streets throughout (although opportunities for this have in very recent years been missed), the remedy appears to be to create new streets. If the shopping and business streets, which are none too wide, could be relieved of the through traffic, or even part of this through traffic diverted to new and wider thoroughfares, much would be done to help matters.

It is impossible to expect another Grainger to come and do for Newcastle what is more essential to-day than were his improvements of seventy years ago. Street improvements in the city, now that property is so valuable and divided amongst so many owners, must emanate from the Council, and this branch of municipalisation is a right one for our representatives to take up, and I am sure it would pay the city handsomely if properly conducted.

From the Central Station practically all traffic to and from the north and east goes by Grainger Street and Blackett Street. One of the most desirable improvements would be to add to the usefulness of Percy Street (and thus relieve Grainger Street) by either improving the approach to it or making a new street to the north of Clayton Street. The latter has been frequently considered, and might in recent years have been economically made, but I fear now it can only be carried out at great outlay. A street from the Monument to the Haymarket has for many years been talked of, and indeed powers were obtained to make this so long ago as 1837, while Grey Street was in course of construction; but it was one of the schemes which the Corporation unfortunately allowed to lapse, since there were then no vested interests in Northumberland Street to contend with. I still think this a desirable road, in so far as it would provide accommodation for the increasing shopping requirements of the town, although it would hardly be a satisfactory thoroughfare, since it would in no way relieve Grainger Street. This proposed new street would not affect Northumberland Street, which I believe will always remain the main road.

The axioms I have suggested as to duplicating through roads apply perhaps with greater force to

the roads from south to north than from east to west. Has the High Level Bridge for all time to satisfy the requirements of a main North Road? A more congested and dangerous approach than that at the south end probably could not be conceived; and on arrival at the north end of the bridge, it would puzzle any traveller to find by map the best road to the north through the town; or, for that matter, a point policeman would almost be beaten to direct the stranger the best road.

If the High Level Bridge is always to remain the artery into the town from the south, it is difficult to see how this can now be improved. This brings me to another subject in connection with the development of the city, which I think worthy of our consideration as architects. I refer, of course, to a new High Level Bridge; and it is gratifying to note that this has been under consideration by a joint committee of the Councils of Newcastle and Gateshead for some time, although I regret to learn it has been adjourned *sine die*.

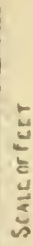
I do not know how many years ago it is since the proposal was first made, but it is interesting to record the history of the first High Level. In 1771 the old Tyne Bridge was swept away by flood, and Edward Hutchinson brought forward a plan for a High Level Bridge, but the Corporation would not entertain it. In 1826 and succeeding years similar proposals were made, and in 1839 John and Benjamin Green published a scheme. In 1846 the matter took practical shape, being forced upon the railway company, and in 1850 the lower roadway was opened; so after eighty years we got the first High Level.

We surely move more quickly nowadays; and if the freeing of the Byker Bridge between two parts of Newcastle may be taken as an example of the increase of traffic, may we hope, for the good of each town, that the building of a free High Level will not be long postponed.

Although this proposed bridge is a scheme of great magnitude and importance, I confess I only saw the plans recently, and I fear few of us have interested ourselves even to this extent. I have, through the courtesy of Councillor Cowell and the engineers, Messrs. Sandiman & Moncrieff, seen their scheme, and it seems the best that can be devised. I show it on Plan A.

You will notice it provides the best approach possible from High Street, Gateshead, on the south, terminating at the foot of Pilgrim Street, in a direct line with the North Road, forming a most admirable through route; and as the property is all old and ready to come down, a widening scheme might be judiciously and, probably, economically carried out, without waiting until the bridge has come and sent values up.

This approach would tap City Road leading east, Mosley Street, with the corner taken off, leading west; and, further north, we should meet New Market Street, from which, if the road I am about

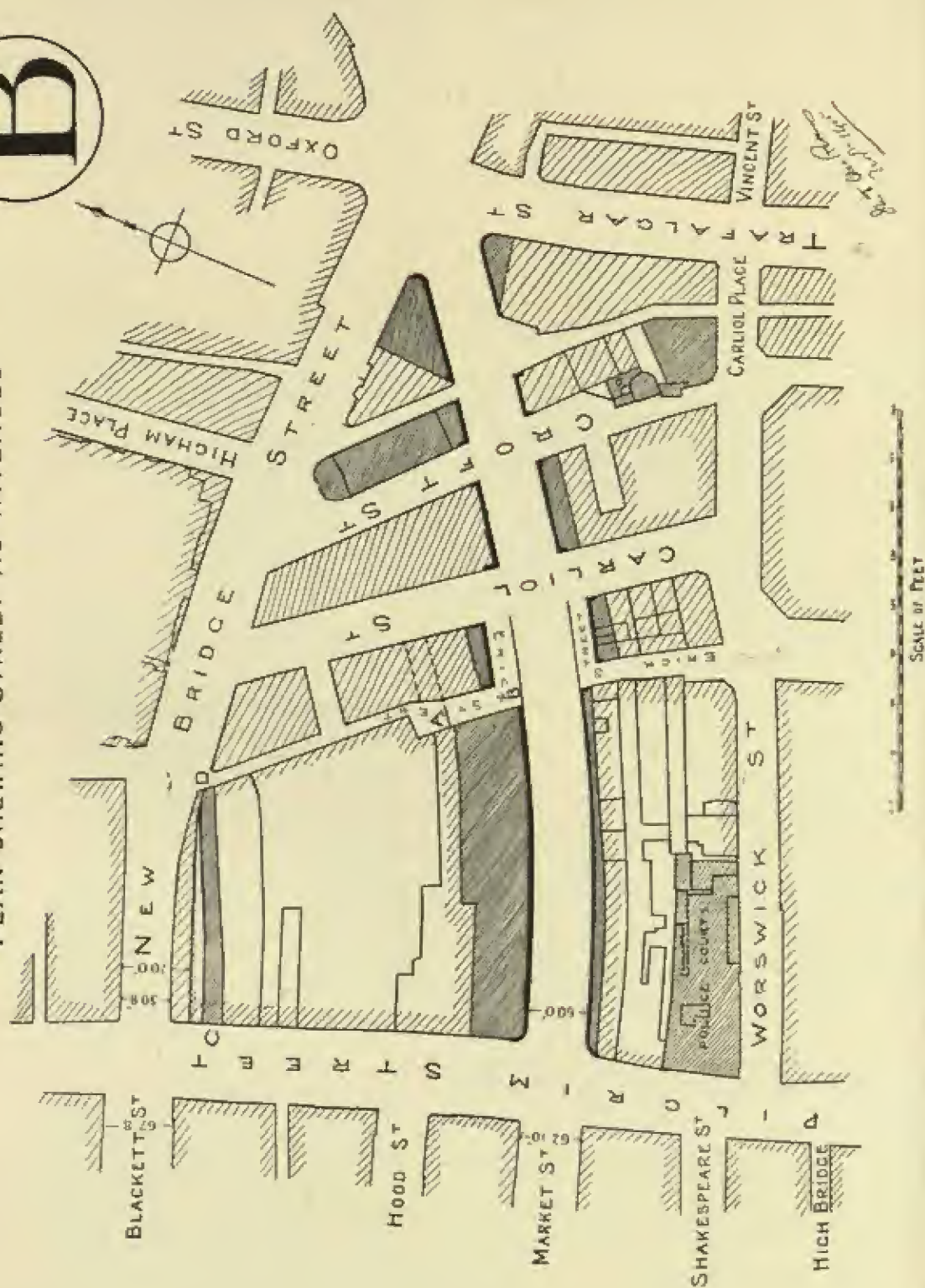


SEAL OF THE

MARKET ST EXTENSION

PLAN SHEWING STREET AS INTENDED

B



to suggest were carried through, we should have two good avenues to the North Road.

Before leaving this part of my subject, you will observe I have indicated on Plan A a large sweep on to City Road from Pilgrim Street. Although this new bridge is on the *tapis*, the Corporation, who own this corner site, are offering it for sale, with building frontages up to the existing lines of City Road and Pilgrim Street, without any regard for probable future requirements and improvements.

The latest improvement undertaken by the Council (I refer to the Market Street extension) will, I think, if properly carried out, prove one of the greatest boons to the city since the days of Grainger; for it duplicates New Bridge Street, and so may relieve it of the great amount of through traffic which so congests it now. But when we look at the details of the scheme, it seems to leave much to be desired; and, in my humble opinion, it is a striking example of shortsightedness.

I do not think I am far wrong in asserting that very few indeed here this evening have seen the Parliamentary plans for this work, and probably none of us would, had we not been engaged either in Parliamentary work or arbitrations in connection with the scheme; and if this applies to architects who ought to be interested in such matters, what proportion of the general ratepayers may we assume know anything about it? A very small proportion indeed. I have prepared a tracing of this proposal.

Plan B is made from the Parliamentary plan, and you will observe that although Grainger—seventy years ago—with a population as before stated to guide him, and little experience of railways and none of mechanical traffic on roads, thought fit to make Market Street over 60 feet wide, still in this century our Council thought of making the extension only 50 feet wide. Fortunately, our present City Engineer, Mr. Edge, found that the lines of deviation were sufficiently wide to permit of the street being made 60 feet; but this, I submit, is much too narrow.

In all cities, and especially in Newcastle, where the area for business premises near the centre is so limited, the tendency is to build much higher than we were able to do before the days of electric lifts; therefore, putting aside for the moment the necessity of wider thoroughfares to provide for the development of traffic, this increase of height in buildings alone should have been sufficient reason for providing a wider street than was necessary seventy years ago. For the ample provision of light and air, and certainly for æsthetic reasons, it is desirable that the height of buildings should be less rather than over the width of the street; but when we consider this in conjunction with the increasing traffic, which I have already referred to, it seems a serious mistake that this new main thoroughfare should be only sixty feet wide.

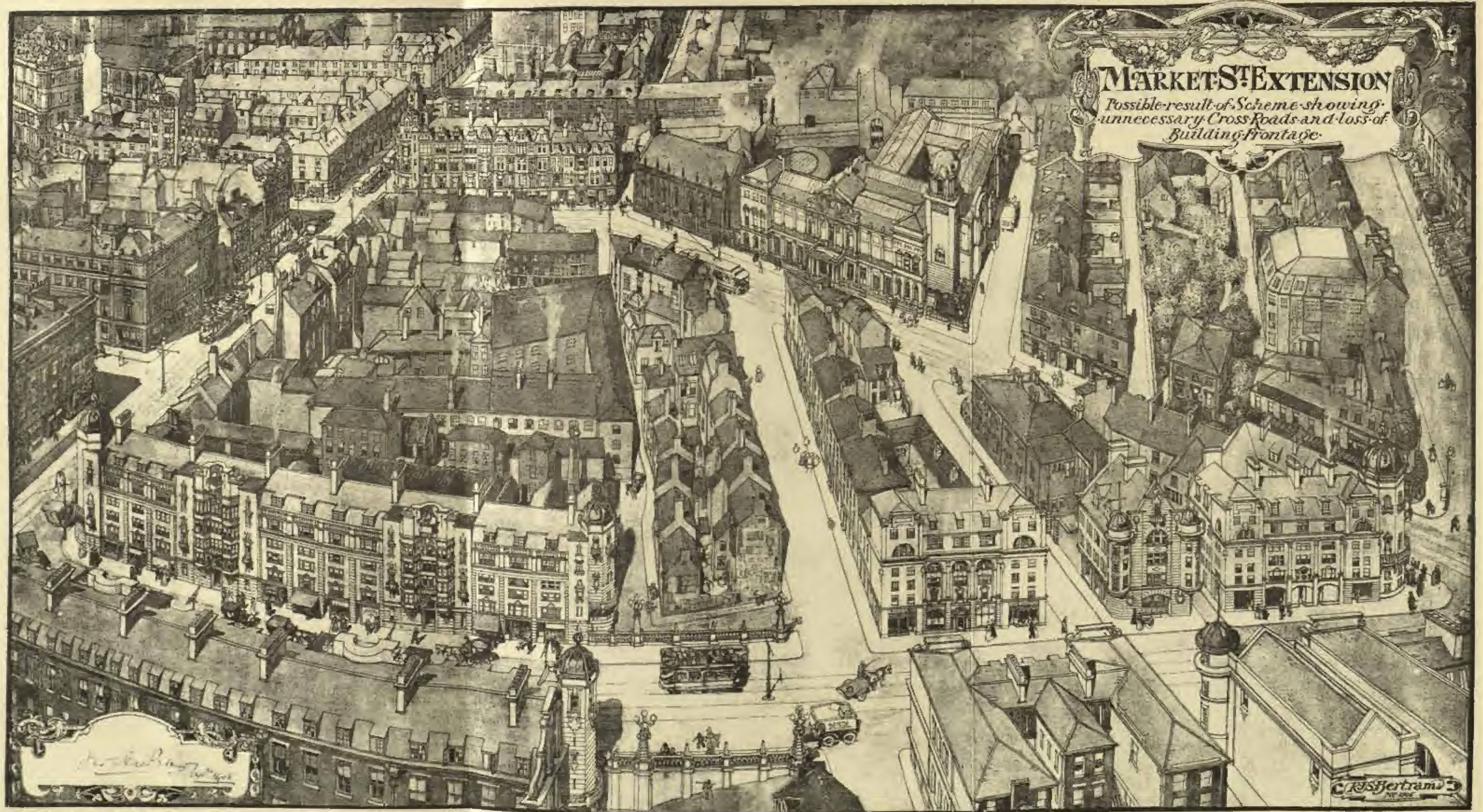
Before considering what might have been done, I should like to say a few words on the commercial aspect of the scheme as proposed.

The Plan B indicates by the closer cross-hatching the properties which the Corporation either purchased to carry through the road or previously owned. The considerable area on the north side at west end was forced upon them, otherwise they would have had only a narrow strip here as they now own on the south side opposite.

Does it not appear businesslike that throughout the length of the street the Corporation should have purchased a sufficient depth on each side to have provided them with a commercial area for sale at the betterment price? By far the larger area could have been purchased at back land price, and even with the present scheme this price would have been obtained many times over on the resale after opening the thoroughfare. As it is, the narrow strips forming the frontage to New Market Street are of no use (except as advertising stations) to the Corporation, or anyone else, save the owners of the land adjoining; thus the market is reduced to a minimum, and the Corporation will have to take what they can get from such owners who will make the profit which ought to have been secured for the ratepayers; and this in spite of the fact that special powers were taken in the Bill to purchase lands upon either side of the road in order to provide marketable building sites of sufficient size for the position. Had the Corporation acted up to this the resale would have gone far to pay for the improvement, and would have assisted private enterprise in developing buildings with fine frontages; but as the matter stands no development can take place, for example, along the south side from the west end until some wealthy individual or syndicate buys up all the property to the north of the police courts, and divides it up by lines at right angles to the new frontage—work which should have been done by the Corporation. This will seriously delay the completion of the improvement, and is bound to affect adversely the new façade, since it cannot pay to erect noble fronts without large areas behind for business purposes.

Even if it is too late to have the scheme amended in any drastic way, surely a small alteration which would be a great improvement æsthetically and financially might be considered. It is proposed to turn Erick Street out on the north and south sides of the new road on to Carlisle Street. There will therefore be a hiatus in the frontage from the west side of Erick Street to the east side of Carlisle Street, a length of 140 feet on each side. This is clear from the Plan B, and I have endeavoured to show it on the perspective illustrating a possible result of the scheme.

So far as the north side is concerned, as I have pointed out, the Corporation have purchased the cross-hatched part. Now, if they were to purchase, say, three more houses between Carlisle Street and



Erick Street, and turn this back street out to Carloli Street on the north side of this purchase, no one could object to their closing and building upon the street A to B (Plan B), and they would gain 220 odd yards of building land and a frontage of 90 feet to the new street.

Similarly, but by arrangement with the owners of land, which I submit the Corporation should have purchased, a great improvement might be made on the south side.

These matters may be small details to address the Association upon, but my desire is that by drawing your attention to them the Association in future will consider it its duty to investigate all such proposals with the view to offering advice to the authorities, if necessary, for the benefit of the city.

I sincerely hope that the Council may yet consider the desirability of going to Parliament to amend the scheme before it is too late.

A glance at the Plan B will show even one unaccustomed to plans the large area given up to streets compared with building area, and all citizens, I feel sure, would be glad to know that it was proposed to remove the unsavoury property which forms part of the area shown. Even with my suggested improvement between Erick Street and Carloli Street, see how the frontage is cut up by cross streets which are not required, and these also cut the area north and south of the new street (what will soon become valuable building land) into the most fantastic shapes, certainly not suitable for modern development.

Even if the Corporation do not see their way to embark upon the larger scheme I am about to suggest, I submit they certainly should have purchased the land between Carloli Street and Trafalgar Street and laid it out in suitable blocks with continuous frontages to the main roads. They would then have had valuable building blocks to dispose of north and south, with good frontages to New Bridge Street and the new street. We all know how unsatisfactory New Bridge Street is as a business street, between Carloli Street and Trafalgar Street, due entirely to the want of continuity of frontage line. This is being repeated, of course, on both sides of the new street, and the result will be equally unsatisfactory.

Is it conceivable that this twentieth-century scheme can be completed on the lines proposed, and be comparable with the work done to beautify the city in 1840, much less to be seventy years in advance of it? I submit that, apart from the centre line of this proposed street, there is nothing in the scheme worth preserving, and that it has been conceived in the most parochial spirit possible.

The only idea appears to have been to obtain a thoroughfare, and when it was thought 50 feet wide was enough for this, surely we could not expect the promoters to look beyond the frontage line.

I have suggested that much good would result from the Council asking the Northern Architectural Association to assist them when considering improvement schemes for the city; for are we not, by our training and daily work in every part of the city, likely to be the first to notice desirable and even necessary improvements? Mr. Oswald, I remember, in 1889, read before our Association a most interesting Paper full of useful suggestions for new thoroughfares; but I question if it was printed or even reported. Many of our members have had schemes for continuing Grey Street to the Haymarket, and also for providing a site for a new Town Hall and municipal buildings. Eldon Square, Westgate House, and Fenkle Street, and the junction of the Haymarket end of Northumberland Street, and the proposed continuation of Grey Street and the Butchers' Market have each had their advocates as sites, but as individual suggestions have never received more than passing thought. But had we such a committee as I hereafter suggest, whose advice would be respected when asked for, surely this committee might with equal weight make suggestions for the improvement of the city to the City Council.

My criticism of the Market Street extension has tempted me to consider whether, by dealing with the matter as Grainger and Dobson certainly would have done, there is not room for a magnificent improvement to this part of the town, which would also be financially successful. The Plan C and perspective drawing explain the suggestions fully, but a few words may be desirable.

The great expense of the scheme lies in the purchase of all the property between New Bridge Street and New Market Street and the old property to the south of New Market Street.

With, I think, one or two unimportant exceptions, all the property in this area is old, and there are schemes for rebuilding a very considerable portion of it. You will observe from the cross-hatching on Plan B how much of the front to Pilgrim Street and New Market Street the Corporation now own, and nearly all the remainder is in the market and could be negotiated for on favourable terms. The back portion could have been purchased more reasonably before New Market Street was formed, and a considerable portion of the area is streets. Were this property all bought up and the area laid out as shown on Plan C, we should have blocks commensurate with modern requirements, and with frontages that would command prices that would go far to pay for the scheme, even if it did not do more. We are living in the days of large business and commercial concerns requiring large premises, and I believe it is true that several important firms would have come to Newcastle long ago had they been able to secure sites large enough near the centre; so there would be no trouble in dealing with the blocks formed by the suggested plan; and the larger the

frontage in one holding, of course, the easier it is to deal with the artistic side of the question of street frontage.

Possibly, however, the fact that the scheme provides a site most suitable for a Town Hall, municipal buildings, and Police and Assize Courts, if desired, goes far to recommend it. The area is ample to permit of this, and also for the building to be well set back from the frontage lines, and Pilgrim Street at this point is one of the widest of Newcastle streets.

I do not think the most extravagant reconstruction would produce a finer or more appropriate site for municipal buildings. It is practically the centre of the city, and at the junction of the main arteries from east, west, north, and, if the new High Level become a reality, from the south. It is close to the Free Library, Laing Gallery, and Police Courts, and would form a fitting termination to the fine processional road I suggest from Barras Bridge, past the College Mansion House, and Laing Gallery.

Further, the front property might stand and yield a return until the Council decided on a Town Hall and municipal-buildings scheme; and, failing this, the improvements would have converted back land into front, which could be sold to advantage for business purposes.

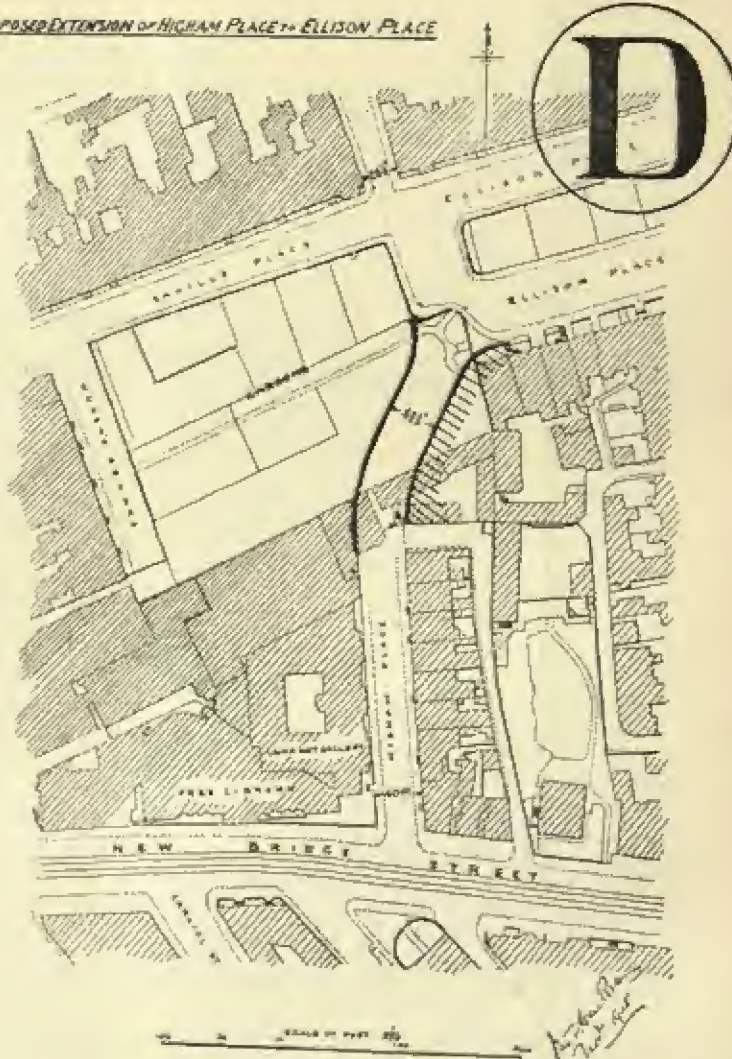
Sooner or later the west end of New Bridge Street will have to be widened by setting back the south side, and this would form part of the scheme. I have not heard that the Corporation ever intended this widening; but in view of the absolute necessity for it, it is curious that the Corporation should be offering the strip of land cross-hatched C to D on Plan B at a great deal below frontage price when they could have prescribed a frontage line and given the back land for the front, and so widened the road at a minimum of cost to the ratepayers. It hardly suggests municipal foresight.

The road on the east of the proposed Town Hall site might be continued up on the line of Princess Street, as indicated on Plan C, to Northumberland Road, which should be widened on the south side, and this would much improve the value of the Corporation property here, and lead to its being covered with fine permanent buildings. It is interesting to note that so far back as 1846 the Corporation took powers to make a street from

New Bridge Street to Princess Street. Surely therefore the time is ripe for effecting the improvement.

You are no doubt all aware that the Corporation recently decided to open Higham Place through to Ellison Place. By the kindness of Mr. Edge I am enabled to show you on Plan D the scheme which has been adopted. This will provide a thorough-

PROPOSED EXTENSION OF HIGHAM PLACE TO ELLISON PLACE



fare from New Bridge Street to St. Mary's Place; but is this worthy of the city? Surely not, whether a large scheme can be carried out at once or not. It certainly must be wise to look ahead and formulate a scheme, and let every improvement and alteration to property on the line of it be in accord with it, so that money is saved in the end when the improvement as planned is an accomplished fact.

With the development of the suburbs and con-

sequent traffic Northumberland Street is bound to become too congested for both through and stopping traffic; so if we can supply another artery economically, surely it is desirable. For this purpose I suggest that a road be carried through from New Market Street to Barras Bridge, and by making it at least 70 feet wide, except at each end, comparatively little property is interfered with. The Higham Place houses vary from 58 feet to 70 feet deep, the former certainly much too little to allow of development; and at the back is the late Miss Dobson's garden between two back streets, and therefore very difficult to deal with. Were the Higham Place houses to be removed, the back street and garden beyond would become valuable building area and a depth of 120 feet obtained, which would permit of fine modern buildings. The Art Gallery front would be opened up, and by the removal of the adjoining stables the front might some day be carried round facing Queen's Square Gardens, which, on the line of the new road, would form a delightful place for statuary, with the fine old residences facing it. This is indicated in the perspective.

Coming to the Mansion House, Collage Street is here under 80 feet wide; sooner or later therefore some widening will have to be done, and this might have been foreseen before much money was spent in rebuilding on the west side a few years ago. Similarly, the Bart Hall unfortunately stands in the way of the improvement I suggest, and its ultimate removal should be aimed at.

Further north the Baths would allow the width of road I propose, and if the road were continued round to Barras Bridge a very fine approach would be formed to the city from the north, and the increased value given to the land opened up, together with the facilities the road would provide, would go towards making it one of the most satisfactory improvements since 1840.

Newcastle does not compare favourably with many other cities in this country, nor with most cities abroad, in the number of open spaces it possesses. I might cite Leeds and Liverpool as examples of what may yet be done in the centre of a modern town in this respect. Only recently considerable difficulty was experienced in finding a suitable site for Mr. Cowen's statue and the War Memorial Monument. I think you will all agree that the thoroughfares of a city provide the most unfortunate sites for such works of art. It is gratifying to note the advance of public taste in this respect, but it is only by providing the opportunities that this desirable movement can be fostered. I would like to suggest that the Cross House site be cleared and suitably laid out for the reception of memorials, for many of our past eminent citizens are not yet so honoured.

Another necessary improvement is the widening of the north end of Northumberland Street. It is indicated upon Plan C.

I am glad to observe that one of the subjects for discussion at the International Congress of Architects to be held in London next year is the planning and laying-out of streets and open spaces in cities, and I hope it will have the attention of our local governing bodies.

One of the recent Corporation improvements was the widening of Osborne Road. This thoroughfare is rapidly becoming the duplicate of the North Road for through traffic, and with the development of the Trafalgar Goods Station will no doubt be much more used. I fear this widening was not done in the thorough manner the circumstances justified, for it is already too narrow for a through road, and this observation also applies to the main North Road. What an opportunity there was here for making a noble wide approach to the city, and even yet the footpaths might be thrown into the roadway and transferred to the outer sides of the belt of trees for a great part of the distance to Gosforth. At the north end of this road in Gosforth, at the little bridge, the road is dangerously narrow; but still a villa was recently built there without any attempt being made to widen the road by the Gosforth authorities. Sooner or later this widening will be forced upon them, and the expense then to the ratepayers will be much more serious.

Another matter which I should like to draw attention to is the development of estates in the suburbs. So far as through roads are concerned, each estate is laid out with the view to squeezing as many building sites on as the shape and boundaries will allow, regardless of how the streets may run. We think of their extent only, and, having nothing to do with the land adjoining, consider only the best method of making use of the approach we may have, with no regard for the town or for what may be required for a thoroughfare some day.

In Newcastle we are compelled to make 40-foot streets, and in adjoining districts streets only 36 feet wide. To give up land for, say, a 50-foot or 60-foot street is a great sacrifice for the owner, for which he derives no return, but, on the contrary, suffers even greater loss; for it entails the cost of extra road-making, and does not improve the immediate price of the abutting sites.

It would be a great benefit if the Council had power to define all such main roads and their width, and to compensate the landowner for the loss he sustains by having to make them of greater width than ordinary roads. Mr. Edge has kindly lent me a copy of the Liverpool Corporation Act of 1902, and Section 30 provides for this. If such a clause were inserted in the next Local Improvement Bill and became law, I think much money would be saved in expensive widenings in the future.

The R.I.B.A. Council, as Sir Aston Webb pointed out recently, has for several years been asked to

advise the Government and the London County Council upon questions of design and laying out of streets &c.; and such advice has gone far to produce an enormous advance upon what happened not many years back. I hope our local Councils will soon see the utility and benefit to be derived from following a similar practice; but can we expect it until we are awakened by our deeds and acts of friendly criticism, not only in the members of our governing bodies, but, what is more important, in the public at large, a much greater interest in their heritage, this fine old city?

This, gentlemen, is to my mind a subject of paramount importance, and one which I fear we as a body have taken practically no interest in in the past—largely, I think, the result of our want of cohesion; but now that every year is strengthening our Association by consolidating our scattered units, I hope that at no distant time this body will be looked up to by all, so that when any questions arise concerning the frontage, height, or design of any building which will affect the vista of a thoroughfare, or a grouping of buildings or planning of new streets, that local Corporations will submit the matter to the judgment of this body and seriously consider the advice given.

Our aim should be that all so-called improvements may be subjected to the careful scrutiny of a qualified committee, in order that all possible means may be adopted for making each addition and alteration in the city a satisfactory part, fairly contributing to the beauty and economical success of the whole.

The control of street architecture has been the subject of much discussion and consideration in late years, and several writers have made suggestions.

Mr. Guy Dawber, in his Presidential Address to the Architectural Association a year ago, regretted that this country had no Ministry of Fine Arts or some consultative committee on art who could advise when sites come into the market or buildings are pulled down, as to the form the rebuilding should take, or what improvements or modifications on the design would conduce to the future dignity or beauty of the city.

Mr. Belcher, in his Address this year, deals with the subject, and points out that an Art Commission similar to that suggested has been established in New York, and he explains that it has jurisdiction over all designs of municipal buildings, bridges, approaches, gates, fences, lamps; the lines, grades, and plotting of public ways and grounds, and similar matters.

Similarly, in France authority is exercised over such works.

It is, however, a very difficult subject, and one our Practice Committee would do well to consider and take up, with the view of having Papers read and discussed by the practising members of the Association.

If our Association becomes the power in its province we expect, I see no objection to the different authorities having power to delay any improvement until the advice of the Association Committee is obtained, and thus force a full consideration of the scheme by the promoter in conjunction with the Committee, which would be the best body possible to eliminate the bad, and restrain without killing individuality.

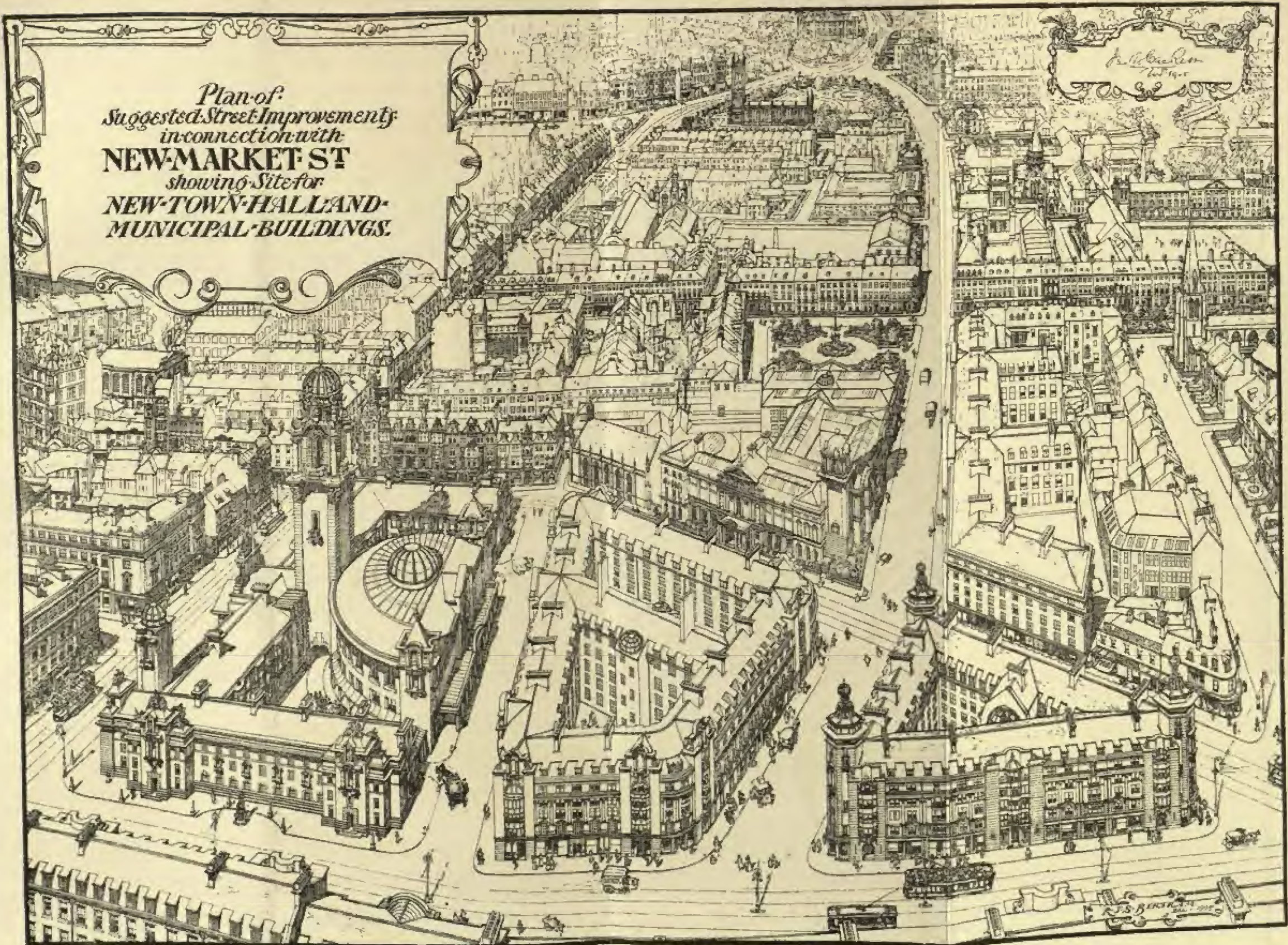
In the case of the Strand widening in London the London County Council obtained designs in a limited competition with a view to controlling the buildings to be erected. Again, it is gratifying to know that the Commissioners of Woods and Forests intend that the whole of the Quadrant of Regent Street should be rebuilt upon one design and with regard to the architectural continuity of the street, and that, although many architects may be employed, Mr. Norman Shaw is controlling the work. I think a local committee of architects might act in a similar way here.

In the case of the Market Street extension, where a considerable length of frontage belongs to the Corporation, there should (with the example I have referred to) be no excuse for our Council failing to deal satisfactorily with the façade. If they have to sell off strips to different purchasers, let us urge that ample conditions be inserted to secure the treatment of continuous blocks of frontage as a whole on lines which will commend themselves to the commercial investor and the artistic well-wisher alike. If the Corporation scheme cannot now be improved, I have indicated on the perspective what might be done in this direction.

It cannot be denied that city improvements are not receiving adequate attention, in view of the few facts I have been able to lay before you in the short limits of my Address, and failing reforms in this respect future generations will have just cause to regret the decadence of our city since the days of Grainger and Dobson.

If my observations have awakened an interest in the matter amongst my fellow workers and the citizens at large, I trust it may be sustained until the authorities are quickened to an appreciation of their responsibilities.

Plan of
Suggested Street Improvements
in connection with
NEW-MARKET ST
showing Site for
NEW-TOWN-HALL AND
MUNICIPAL-BUILDINGS.





Forecourt Screen, Palace of St. Clouds, Nanterre.

METAL-WORK.

By JOHN M. SWAN, R.A., MONTAGUE FORDHAM, AND WALTER GILBERT.

Read before the Royal Institute of British Architects, Monday, 22nd January 1906.

I. By JOHN M. SWAN, R.A.

I HOPE you will forgive my frequent allusion to ancient art in this short Paper on metal-work. I am so far penetrated by a profound reverence for the past that I feel we are but as pigmies that peep through the legs of the Colossus of antiquity. Speaking of this I must needs think of the Colossi, and of the work of Chares, pupil of Lysippus, who built the Colossus of Rhodes that strode across the harbour where little ships sailed out and in. The proportions of this giant are nearly equalled by Bartholdi in his magnificent statue of Liberty that guards the entrance to New York harbour. I was deeply impressed by the simplicity, grandeur, and splendid malachite-green colour of this work: it rises like some Titan-born goddess from the sea—not as Aphrodite, but a kind of Minerva, with a sea-girt realm. And I wondered when a statue of Britannia would arise from the waves in bronze of colossal form in the same spirit of antiquity, and emblematical of ourselves and the sea-girt isle we spring from, or at least to which we owe our greatness and power. Japan, that rising nation, has, since the eighth century, produced a series of colossal works in bronze: the most notable is their presiding genius Rochana, known as the Daibutsu—a seated figure 53 feet high, breadth of face 9 feet 4 inches. Four hundred and fifty tons of metal are estimated to have been used in its construction.

Dædalus, that mythical personage under whose name the Greek writers personified the earliest development of sculpture and architecture, is one of the presiding deities, but he does not help us much, save as a starting point. During the Homeric period of Greece works executed in metal were wrought by means of the hammer, and the parts were joined together by pins, cramps, or rivets; the art of casting in bronze, iron, and the precious metals, together with the use of ivory or chryselephantine work, followed later. One reads of the colossal statues in ivory and gold of Pheidias; also of a statue of Dionysius by Onassimedes of solid bronze, mentioned by Pausanias as existing at Thebes; and metal plating upon a wooden nucleus. Unfortunately there is no better record than the statements of Pausanias and Pliny, according to whom the art of casting in bronze and in iron was invented by Rhæcus and Theodorus of Samos, who probably lived in the fifth and sixth centuries before our era.

If we could have the power of taking the roof off a Greek workshop, even as Asmodeus in *Le Diable Boiteux*, and peeping into the mysteries of the crucible and their methods! But that cannot be; the processes employed by the ancients are so shrouded in mystery and so difficult to verify, even by the remains of the works they have left us, that we cannot at this distance speak with absolute certainty or form a clear judgment upon them. We rely upon the ancient vases and bas-reliefs. We read that the preparation of the alloy or bronze with the Greeks was an especial business, and flourished in its highest development in Ægina and Delos, then for a long time at Corinth, but that it afterwards disappeared.

Many researches have been made, and the bronzes of ancient Egypt, Greece, Rome, China and Japan have been analysed by Flight, Gladstone, Roberts Austen, Garland, Christopho, and others, so that we can form a very good idea of their alloys, although I always wonder how the iron got in.

The marvellous ivory and gold statues or chryselephantine work of Pheidias and others (I believe Winckelmann mentions one hundred)—I wonder how they could have looked in their places in the temple in the light of Greece: the sea-blue naval heroes of Delphi; Silanion's Jocaste with deadly pale countenance, of silver and bronze alloy; Aristonidas' blushing Athamas, from a mixture of iron with bronze, is worthy of remark, as iron does not admit of being blended with copper. Pheidias gave also (so runs the legend) a red colour to the Lemnian Athene; there are also the iron statues of Theodorus of Samos.

All the varying changes of colour that are mentioned by the ancients, as the paleness of Jocaste and the blush of the Lemnian Athene, are occasioned by the nature of the alloys. Many metals combine together when melted, and only remain in union within certain ranges of temperature by reason of the wide differences of their melting and solidifying points.

I wonder what place the beautiful ivory carvings of the Japanese to-day would hold in miniature art compared with the ancients in technical skill; for certainly they are the Greeks of our time in ivory and metal-work, and of surface treatment and colour.

In ancient bronze the proportions of tin mixed with brass or copper and of copper with silver seem to have been: copper 71 to 87 parts, tin 3 to 6 parts, lead 4 to 21 parts. Lead is occasionally employed, and there are traces of iron. With ourselves in ordinary bronze 96 copper and 4 of tin are generally used.

The Japanese are the real authorities for treatment of colour in metals to-day. They combine such extraordinary manipulative skill with artistic taste in carrying out any imaginative work in colour that they are the masters of the world. We have scientific knowledge, sword-guard, I have brought with me, also an enamelled fish-box of Mokume, that are masterpieces of metal-work and colouring.

The superiority of French workmanship is doubtless due to their fine artistic instinct

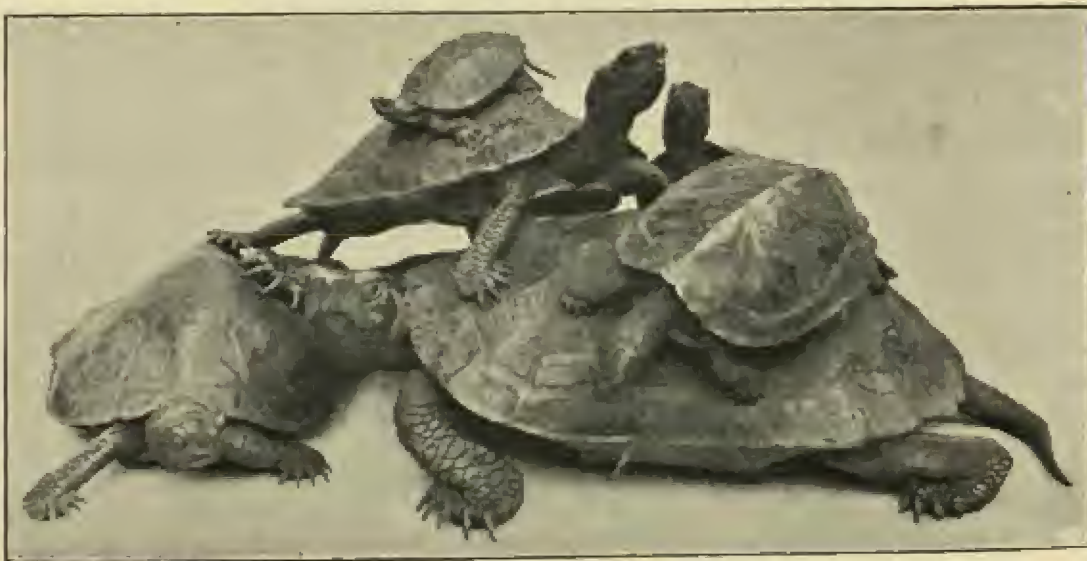
allied to their excellent art training. I consider of the highest importance in a work of art the study of colour for the full realisation of artistic effect.

In modern activities in metal-work for the European market the Japanese are practically the principal purveyors, by German, French, and English capital. When they work for



JAPANESE METAL-WORK: BRONZE DRAGON POT OR URN, BY TSUCHI.

themselves we may be assured of a fine artistic result, although it can never assimilate perfectly with our surroundings, as our points of view differ from the Oriental in the decoration



JAPANESE METAL-WORK: GROUP OF TORTOISES, BY HISHIDA.

of interiors. The Persian and Arabian metal-work with large plain surfaces of copper and brasses might, treated in a bas-relief manner, be well adapted by ourselves for panel treatment for interior decoration.

We get a knowledge of bell founding in Theophilus' *De Diversis Artibus*, something definite, in actual use in the eleventh century; and from the famous Benvenuto Cellini we get the process of casting in *cera perduta*, written by himself in his treatise on sculpture, animated by his own extraordinary story. I always think Benvenuto Cellini could colour a bronze as well as a story.

It is about twenty years ago now since the first *cera perduta* castings were made in this country. I remember well when Gilbert, Onslow Ford, and Stirling Lee were working hard at their first essay. The process is now universal and in use in many foundries in England.

In my foregoing remarks I have wandered through classic periods and the Renaissance to our own time to explain the introduction of the ancient method of casting. I have brought an example of Egyptian casting of a cat's head in *cera perduta*, also one of a Græco-Roman fragment of a foot that is chased. These I consider are wax castings and not sand castings.

The process of *cera perduta* casting as used in England I will endeavour to explain as briefly as possible. First, an ordinary piece mould or gelatine mould is made from the plaster model. Secondly, a wax casting is run from the mould, to which are attached the runners and gates for the flow of metal, and vents for air or gases. Thirdly, it is cored and an external mould now covers the whole. It is then placed in a muffle or furnace, the wax melted out, and when the mould is dry the metal is poured in that replaces the wax model. *Voilà* the bronze.

The founder's wax is made of Gambia, Italian, or native beeswax and resin coloured with vegetable matter or vermilion. The foregoing colouring substances volatilise and leave no residue. The Japanese employ a vegetable wax from the fruits of *Rhus succedanea*. The method of obtaining the founder's casting in wax is by pouring the molten wax into a piece mould until such time as the desired thickness is obtained. Sometimes wax wrought by tempering with hot water or in a semi-melted state is painted or brushed into the mould. Sometimes gelatine moulds are used for, say, two copies, although the shrinkage is a great risk. The colouring of the wax is important, as if some metallic pigment or earth colour were employed it would cause a residue in melting out that would destroy the casting. Vegetable colour or vermilion is generally employed, as they completely volatilise. Upon the founder's wax model are placed the jets and ingates or openings through which the metal is poured into the mould; the necessary outlets for the escape of the air and gases, and for running or melting out the wax, are moulded in pipe fashion, and lantern pins, as they are termed, are inserted to aid in keeping the core in position.

The loam is made of half brickdust and half plaster, but the intonaco is of powdered earthen drain-pipes obtainable from Doulton, Lambeth. The Japanese employ clays of decomposed granite obtained from the hills round Kyoto or Osaka: they are extremely plastic, but not very refractory, as they contain considerable amounts of the alkalis. Clays are tempered by admixture with old fire bricks of fine and coarse powder. The core, which is one of the most important parts of the mould, may be hollow or solid; for figures it is generally solid. The Japanese core does not differ much from European cores, save in thickness. After the core is made and dried the object is modelled in wax upon it. The artist in preparing this model uses all the resources of his skill, and if the casting be successful, all the subtle and delicate touches of his hand will appear in imperishable bronze. Occasionally the Japanese employ paper for making moulds. Compressed, I am informed, it makes fine moulds, and the charcoal gives a good impression—very delicate when burnt—but this process is not general, as the

ancients employed lava for moulds, jewellery especially, the same as other Oriental nations employ tufa and stone. The founder's wax model is coated with a thin layer of the first intonaco or fine clay: after drying, other layers are applied, until the crust is thick enough for the stronger loam. The mixture of clays for the first layer or intonaco is very carefully prepared to prevent them from being melted by the molten metal. The formation of a fused crust on the casting, which is always difficult to remove, and destroys its surface, is obviated by this. The core and mould are dried slowly, the wax is melted out by means of a charcoal fire by which both inside core and outside mould are heated and the walls baked hard. The core and mould are heated by a charcoal fire generally to a red heat before the metal is poured in.

Among the different examples of metal colouring exhibited here this evening I must not fail to draw attention to a new colour that was discovered by my friend Mr. Rollo Appleyard, who has made for himself a well-known name in science; it is a deposit of sulphur upon copper. I have found something analogous to it upon the Japanese enamel tsuba which I have brought for you to see.

For what I know of the art of casting in *cera perduta* in Japan I am mainly indebted to my friend Mr. Wm. Gowland, Associate of the Royal School of Mines. No man in England is better acquainted with the methods of the Japanese; he was for a long time



JAPANESE METAL-WORK, SHOWING EXTRAORDINARY DELICACY OF CHASING.

attached to the Imperial Japanese Mint. Many of the methods he told me I have tried. He obtained for me some of the grasses, the famous Hariyasu, or *Calamagrostis hakonensis*, also the unripe plum-pickles; and various patinas I have obtained, but up to the present I have not succeeded in obtaining a lobster red or a very deep brown.

I have brought a specimen of fine black bronze that I remember the late Mr. Roberts Austen, of the Mint, saying could never be obtained save by age—admitting the right alloy

and pickle were used. The subject of patinas and pickles is a very large one, and I can only touch upon it in my Paper; but it was the subject of colour that caused me to speak to you this evening on metal-work.

Everybody, I feel sure, must be struck with the uniform black colour of the bronze statues of our metropolis—the dull heavy monotony of colour. Can nobody discover in metallurgy an unchangeable alloy?—for at present all our statues are dull uniform black. I wonder when all this will change; it is a most unsatisfactory state of things for both public and artist. I stood one wet day regarding the Lions of Landseer and the base of Nelson's column in Trafalgar Square, and saw the iridescent slime oozing over their black surface, although it is said the precious bronze of which they are made, consisting of copper and tin, favours this patina formation in our London atmosphere and fog, also the large amount of dampness in the atmosphere and salt, together with frequent rain. It is further said that washing favours the production, while coal-dust, sulphide of hydrogen, and sewer gas hinder it. The black coats of the Trafalgar Square lions do not recall the orange-tawny glow of the king of beasts. Under certain atmospheric effects one can see an artistic blend with the fog and mist of architectural surroundings. That reminds me always of the peep from the steps of the National Gallery of the



YELLOW BRONZE OR KARAKANE FIGURE OF GODDESS.

Remarkable for its colour and the introduction of gold on the patina.

columns of St. Martin's Church with their weather-beaten and washed sides. I am in love with this as one of our most beautiful artistic effects; if they were clean columns or of uniform grey, I should not notice them; they are part of dear old London. I am perforce compelled to follow the example of the ancients and to prefer in many cases gilded statues or monuments that would better resist the action of the atmosphere and have a more decorative effect. They may appear too garish at first, but a good old pea-soup London fog would soon tone the surface and take off the glare of new gilding. I believe history says three thousand bronze

statues decorated Scaurus' Theatre that Sulla took away from Greece. What if they were all black !

Fine colour is a source of joy to us all ; certain it is a gilded statue would appear as a sunbeam in our streets in the dull foggy weather, and in the summer in sunshine with blue skies overhead would be a joy for ever. Of course I imagine the artist's conception to be a beautiful creation. The noble rust (*æruo nobilis*), the antique patina, is not naturally formed



JAPANESE METAL-WORK : BRONZE DRAGON, PROBABLY
DESIGN FOR A FOUNTAIN.



JAPANESE METAL-WORK : WROUGHT-IRON LOTUS.
Fine specimen of lacquered work.

in the atmosphere of London, or our statues of malachite and our copper domes would be a delightful green. This reminds me that our brusher, through the London County Council, is looking after the cleaning and washing of the works of art we possess in the way of public monuments. I hope no more of these ancient landmarks will be moved. How I miss the old Lion of Northumberland House ! He was a pet of mine ; also the Duke of Wellington.

I want to see Boehms' statue of him higher up; but even then it can never replace the association of the old Duke.

Whenever I take my walks abroad I cast my eyes around for fountains playing in the sun-baked square—the whirl of pigeons—the flower-patches. I am always looking for them, also for some decorative groups as a relief from the historical personage on a pedestal—something to relieve the dull ache of town and the monotony of statues of heroes in trousers; they are so serious and such heavy bronze—quite a weight on my mind.

Bronze bas-relief or gilt bronze in relief on marble should be fine as a decoration—even with us. I do not see why we should have less devotion for our heroes by giving them a more beautiful decorative aspect, or less feeling for our architectural surroundings. Colour would be subservient to sculpture and a glorious handmaid to architecture; the charm of mosaic is capable of wedding a beautiful monumental design; at present our monuments are barren of colour, and especially deficient in treatment of the pedestals and bases. What can be more unsympathetic than the basins of the fountains of Trafalgar Square? Is there no room for the sculptor as designer, and the play of coloured metals and water? Gilded bronze can work in unison with black bronze, and aluminium may be looked after so that it does not become the uniform London black; besides, there is water, and we occasionally get a little sunshine over which a miniature iris will play.

. Mr. Swan's illustrations included numerous specimens of ancient and modern metal-work, mostly Japanese, from his own private collection.

II. By MONTAGUE FORDHAM, M.A.CANTAB.

I PROPOSE, as a subject for my Paper to-night, to give a short account of the tools that are used in the ordinary working of copper, bronze, brass, and iron, with some notes on the natures of the metals and their proper treatment as viewed in our own workshop.

I take this course partly because I have constantly wanted, and never been able, to find this information in a concise form, and I therefore assume others have had a similar experience; partly because I am anxious to draw architects down into the workshops, which would have the double advantage of giving them more knowledge of the actual treatment of metal and of creating a closer bond between architect and craftsman; and lastly, because I thereby avoid the error of wasting your time in dogmatising about design, on which I am sure I am not so competent to speak as any of my audience.

Turning, then, to the workshop, the smith is the king of metal-workers, and I will take him first. In the smithy you find at the forge the smith and the smith's mate, or striker. The principal tools they will employ, in addition to the anvil, a heavy tool called a swage-block, vices, and tongs, are the following:—the sledge hammer, for heavy work; smaller hammers of various types, for lighter work; tools called top and bottom tools; chisels and section tools; horns, monkey tools, and the set hammer.

Forging is, of course, the work of the smith, and for all heavy forging the sledge hammer is used, but it is not the smith who uses it; it is his mate, the striker, who wields this. The smith is in this case only a director; holding the metal with his tongs, he strikes it lightly with his hand hammer, indicating the point at which it should be struck, and at the same time often calling out an indication of the strength with which the striker is to

strike. It is also his function to mark in this way the rate of stroke, which varies in accordance with the conditions. Sometimes you will note that the smith is not attempting to strike the metal, but only the anvil. This is a way of indicating that he wishes the striker to repeat the last blow at the same point. It is from this method of working that arises the peculiar rhythm of the hammer strokes, which creates a wild and fascinating music, specially attractive when there are two or three strikers going at once, with the tap of the smith's hammer for an under-current.

When special shaping or forging is required, what are called top and bottom tools are used. These titles explain themselves. The bottom tool is fixed in the anvil, and the metal is driven into it by the striker as he strikes. The top tool, on the other hand, is held by the smith, and is hammered on the top by the striker.

The swage-block is a mass of iron with various shaped holes in it: into these tools sometimes fit. It is used for making shoulders, straightening, and as a bottom tool when there is punching to be done. The monkey tools are used for making tenons.

The set hammer is a short hammer with one face large and flat: it is used amongst other purposes for flattening out heavy plates; the set hammer is held in position by the smith and the striker strikes on the other end.

Horns and scroll wrenches are used for manipulating small work, spirals, and tendril work. The work is fixed in the vice, and the smith works often with a tool in each hand. All the tendrils in the altar rails of the Leeds Cathedral were done in this way, our smith being allowed considerable discretion, with the result that there is no repetition of pattern.

Chisels, punches, and section tools require no special comment. In addition to the heavy forging of which I have spoken, the smith will also himself do light forging with the help of his striker; for example, forged leaf-work. This work requires great skill, and is worked hot and finished cold. Iron can be joined up by welding, which is the most characteristic method; by a collar which is shrunk on and pinned through, if necessary; or by pinning or riveting, which, though sometimes necessary, is the least characteristic.

Most of the work of the smith's shop has to go on to the fitter's, and it is there that a good deal of money is often spent.



ALTAR-CROSS FOR CATHEDRAL AT ADELPHI:
BY HARRIS REPOUSE.

Executed by the Artificers' Guild from the designs of
T. H. Lyon and Sidney K. Greenlade. Height
about 6 feet.

While speaking of iron-work, I may say that in our workshop we do ornamental sheetwork in iron without the use of any heat. In this case a tracer or other embossing tool is fixed in the vice. The metal is placed on the tool at the point where it is desired to raise it, and hammered on the front with a panning hammer at a point close to but not actually on the tracer, which thus raises the work at the required point. I may say that this process may be used for any metal, and is thoroughly satisfactory if your workman is skilful.

In addition to purely forged iron there is, of course, cast iron and what is called malleable cast iron, which we can with some advantage use in inexpensive work in which time is not of importance. Malleable cast iron is iron cast and cooled slowly in an annealing oven, about three weeks generally being required for the process. Iron so treated can be lightly hammered, twisted, and bent, and for small work, such as cheap handles, it is as satisfactory as wrought iron, but you cannot weld it. It is less brittle than cast iron, but much more brittle than ordinary wrought iron. Its exact limitations are a question of workshop experience.

Forged and malleable iron can be finished black, armour-bright, or bright. The best way of finishing iron black is to have oil burnt into it in the forge (a process that closes up the pores and prevents rust) and then painted; but in general it is merely painted black.

Armour-bright iron: this effect is obtained by oil-blackening your metal and then scouring with emery paper. This brightens up the higher surface, leaving the black in the hollows, accentuating the modelling, and thus anticipating the effect of time.

Bright iron is, of course, made bright by filing and scouring with emery paper or otherwise; it is often burnished: that is, rubbed over by a hard highly polished steel tool. The tool is first damped. Black iron is suited for all purposes both indoors and out. Armour-bright and bright iron cannot with advantage be used out of doors: they invariably rust, as no varnish or lacquer that we know of will stand climate; but both can be used indoors, and must either be well lacquered or varnished, or, if not so treated, must be frequently wiped over with an oily cloth.

Of all metal work good forging is to me most attractive, and nothing gives such character to good architectural work as really distinguished smithing. There is something, too, peculiarly fascinating about the smithy: the music of the hammer-strokes, the flames of varied colours, the constant change in colour of the heated metal—a change which the smith must watch with every nerve taut, ready to seize and work when he knows from the special tint that it is ripe for his special purpose. The power of the human mind and muscle combined working openly before you, all join to strengthen the atmosphere of romance that has from all times surrounded this magnificent craft.

Leaving iron-work I will now deal with copper, brass, bronze, gun-metal, and gilding metal, which can for most purposes be grouped together. All these metals can be forged in a sort of way, but you cannot weld any of them; forging is not really their proper treatment. All can be cast, but for this purpose copper is quite unsuitable, though the others can and do cast well. All are suited for sheet-work, that is, repoussé or raising.

From the point of view of sheet-work, copper is the best of these metals: it is very tough and pliable.

Brass (which, by the way, is generally a mixture of copper with varying proportions of zinc and a very small supply of lead) is less ductile than copper, more liable to crack, and not quite so easy generally to work in.

Bronze (which is generally copper with a small proportion of tin, zinc, and lead) is more suitable than brass, but not quite so good as copper for sheet-work.

Gun-metal and gilding-metal, which are varieties of bronze, have the same qualities.

The colours of these metals in the state in which they come to the shop from the mills are not particularly attractive, as all the quality has been rolled out of the metal; but in all cases they may be improved with hammering and also with the effect of atmosphere. Moreover, for all these metals there is a great range of colours with which they can be finished. All these colours, though characteristic, belong only to the surface and can be removed more or less easily; on Japanese work one sometimes finds a patina which is almost permanent. This finishing is in our workshops done by acids or fumes of acid, and the simpler shades of bronze for copper and grey for brass are easily obtained. Other colours are simply a matter of experiment and time. Whatever you do, copper, bronze, or brass tends to become green, and in London that green becomes almost black. For indoor purposes all these metals can be lacquered, and if this be very well done it is entirely satisfactory, though as regards copper and bronze we prefer to let the metal darken under the influence of climate, in which case it soon attains, with the aid of occasional rubbing, a very pleasant colour; but clients will not generally wait for this, or perhaps their servants will not do the rubbing.

As these metals cannot be welded they must be joined either by pinning (riveting) or by brazing with a spelter, which is an amalgam of zinc of the colour of brass, or in small work they can be silver-soldered. They all become and remain softish when heated, and have to be hammered hard again. Consequently it is the practice for them all to be worked cold, though heat is occasionally applied with a blowpipe, when hammering has taken the pliability out of the metal. When in the sheet they are treated in practically the same way, either by raising or repoussé.

Taking repoussé work first, the tools of a repoussé worker are innumerable. I have



PAPER IN BEATEN BRASS; KNOCKED UP COLD ON THE TOOL.
Executed by the Artificers' Guild from the design of Mr. Edward Spencer.
Height about 4 feet.

many of them here. In addition to various hammers some workers have as many as a thousand tools, punches, chasers, tracers, &c., of various forms, each suited to its special purpose. I hesitate to give even the shortest explanation of repoussé work, as the process is so well known; but it will perhaps make my lecture more complete if I introduce it.

In order to do repoussé work, after properly scouring and planishing your metal, you set your plate on the pitch-block, warming the pitch or the metal with your blowpipe, so that they adhere. The design is then drawn in on the upper surface, and is traced in with tracers. The workman is now working on the back and drives in the design with his tracing and shaping tools, working on the tool or direct with his hammer. A good man might possibly finish all his work on the back without having to look again at the face, but he can and generally does turn his work over, and melting off the pitch with his blowpipe works from the front for the purpose of correcting errors or improving the surface. When the work on the back is finished, a certain amount of work on the front is almost invariably necessary. Lettering is done very generally by work on both sides. The altar cross for the Catholic Cathedral at Adelaide [see p. 153] was worked front and back in this way. Repoussé work can also be done by working on lead instead of on pitch.

Raising is the principal other kind of sheet work. For this another process is used. Suppose a bowl is to be made. A disc having been cut out, the metal is slightly shaped by hammering with a wooden mallet into a wooden bowl or on a sandbag until the metal takes a saucer form. It is then hammered out from outside on a tool called a head held in the vice, or it can be hammered over a stake, annealing the metal from time to time to prevent its getting too hard. Shaping on a larger scale is done by hammering over a stake. In making bowls we draw a series of concentric circles round the central point of the sheet, so as to get one's hammer-beats regular. If an exact shape is required it may be necessary to make a templet; but as the hammering proceeds the bowl often obtains shapes by accident more suitable and beautiful than any design. Sometimes all the work is done on a sandbag.

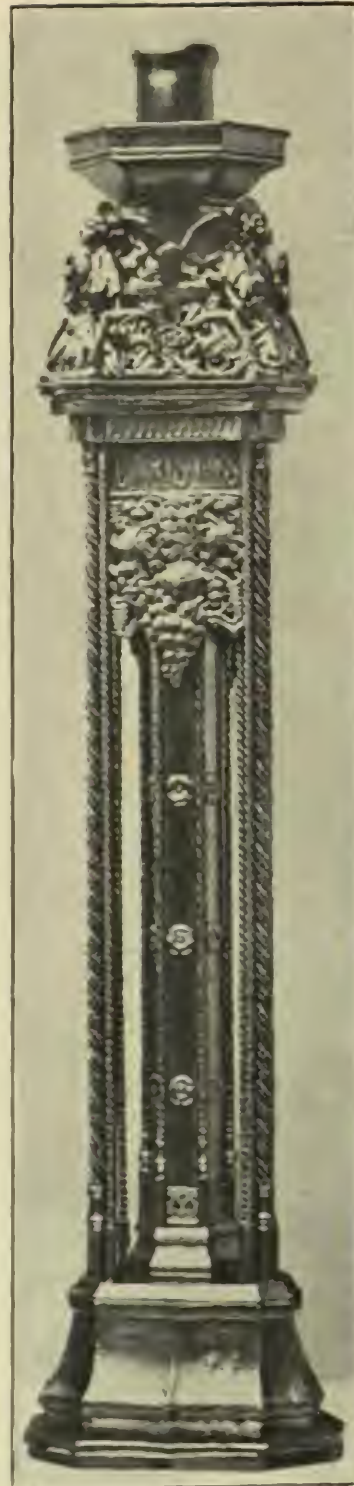
The various mixtures of copper cast admirably. These castings, as you know, are of various degrees of roughness or fineness, varying according to the sand used. Castings have to be chased, be tooled over work-chasers, or cut with a chisel, or filed or turned up with a lathe, according to the quality required and purpose; and it is in this work that the cost of cast metal comes in, though a really fine casting may sometimes be left almost untouched.

I have only now to say a word on pewter and silver. We do not use pewter very much, as it is not very easy to get it with a good colour. It lends itself readily to casting, but the colour remains unpleasing. Pewter can be embossed, but it is rather soft; it can be hammered easily into simple forms. It is not an easy metal to solder or otherwise join. The attraction of the colour of old pewter is partly due to its being alloyed with silver and partly due to the action of time and atmosphere. Of all metals silver is the most attractive to work in: it is tough and pliable, and stands a good deal of heat when annealed. It casts well and shows a nice texture. The general treatment is the same as copper, but it is worked in practice with the finer tools, and owing largely to its value and the necessity of saving the metal it should be employed with a different type of design. Soldering can also be used more freely in silver than copper, as the joint made with silver solder is practically invisible. Silver can be finished bright or can be oxidised, that is, darkened with acids, whereby you obtain the effect of time. The beauty of surface of silver, and indeed of all metals, is largely due to the workman's skill with his tools. The beauty of old silver and brass also to some extent depends on the fact that they have been polished for centuries.

Thus much for the metals as used in our workshops ; and if there is a royalty about the smith's work which is unique, there is an imaginative beauty about fine repoussé work and well-shaped metal that has a value peculiarly and specially its own, and requires a marvellous skill and great understanding.

So far I have talked definitely about the working of metal. I propose now to speak for ten minutes on a question which arises naturally from any consideration of this subject. Why is it when thoroughly good metal-work can be done there is so little to be seen ; or, to put it crudely, why will not the public in general, and the architects in particular, have this craftsmen's work, which if it were fitly encouraged could easily be produced in far greater quantities than at present ? And I shall be grateful if, in your discussion, you will aid me in elucidating this point ; for although I have given some seven years' practically gratuitous work, not as a craftsman, but as an organiser, to aiding the creation of work of good craftsmanship, and to interesting the public and the architects therein, and have had great help from the public, I still see that the gulf between the craftsmen and the architects is not altogether bridged, and I do not entirely understand the reason.

I fancy, however, that the principal reason why the architects so rarely entrust their metal-work to the craftsmen is that it is much less trouble to deal with the trade firms. A trade firm employs a traveller who is at the architect's beck and call, who will supply a design in any manner, will adapt it for any metal, and is often in a position to cut his work down to any price. His firm's business will be to execute the work in a certain (perhaps rather mechanical) manner with a mechanical accuracy to design, and, what is of extreme importance, with mechanical accuracy to time. After all, I suppose that is what most people want, and are satisfied when they get it. How is the designer craftsman, the master craftsman, who can turn out really magnificent work under quite different conditions than those of a trade workshop—how is he to compete with such a system ? The matter rests largely with the architects. I doubt whether any self-respecting craftsman will employ a traveller, neither do I think the architects should expect it ; but, on the other hand, if the architect will give the craftsman the slightest encouragement, he will gladly place at the architect's disposal the result of his practical study and knowledge ; but it is not possible to expect him to attain the facility of point of view of the trade traveller, who is working quite genuinely to obtain orders and make money, while the craftsman works equally genuinely with the definite ideal of a revival of the crafts, and is far less anxious to conform to the criticism of the client than to make a really



PASCHAL CANDLESTICK FOR ST. ANNE'S CATHEDRAL, LEBEN. IN CAST, WROUGHT, AND SHEET IRON; GILT.

Executed by the Artificers' Guild. Designed by Mr. Edwin K. Greenleafe. Height about 7 feet 6 inches.



ALTAR-CROSS IN SILVER, GOLD, AND BRONZE FOR ST. CHRISTOPHER'S CHURCH, CIRENCESTER.

Executed by the Artificers' Guild. Design by Mr. Edward Spencer.
Height 1 foot 6 inches.

beautiful piece of work. Moreover now, *at last*, there is no reason why the metal-worker, amongst craftsmen, should not in his arrangements be as reliable as the ordinary man of business. Practically all the craftsmen metal-workers have now had ample experience, should have got over that disease of their youth the so-called artistic temperament, and have some sort of business organisation to support them. Moreover in metal-work there is no special reason (as there is in furniture) why the craftsman's price should be unduly high; in my judgment the normal prices of the craftsman metal-worker should be no higher than similar work done through trade sources. Labour and material are pretty much the same for everybody, and the craftsman's working expenses should be no more than those of the man of business—certainly they are not in the workshops with which I am associated.

So that if you, the architects, are prepared to bridge the gulf that lies between you and the craftsmen, and ask them to step over and help you in the detail of your metal-work, you will, whilst taking your share in the work of the revival of the crafts (which many of us think is a work of national importance), obtain at the same time an undoubted distinction of detail in your work. This type of distinction no trade firms can, I fear, give you, because the very essence of the difference between a good piece of work and a poor piece of work lies, as you know, only partially in the design, but largely in the conditions under which it is carried out and the spirit in which it is made. However good a design may be, if it is executed by a workman under ordinary unsympathetic conditions and without a profound interest in his work, and an understanding of the designer's object and spirit, the result will be of no artistic value, and will be a permanent disfigurement to any good surroundings in which it may be placed.

I venture to emphasise this point because when I consider the system under which

contracts are given out, and see the curiously mechanical results, I cannot help supposing that, after all, architects do not place sufficient importance on the conditions under which the work is executed, nor clearly understand why the mechanical results are obtained. It is a question of methods of organisation and of workshop inspiration; and although it is not particularly easy to deal with this question on an occasion like this, it is, I think, of the utmost importance, in relation to work like altar crosses, chalices, and other work used for a definite religious purpose, to realise that unless the workshop and men are imbued with some element of inspired enthusiasm the work will always be an artistic failure. This, I think, the more intelligent section of the public thoroughly understands, and is prepared to make monetary sacrifices to obtain work executed under fit conditions. I make no apology for introducing these remarks, because the question of working in metal depends entirely, like everything else, on how you do it; and how you do it depends inherently on how the men (assuming a good technical training) are feeling when they do it; moreover, I do not doubt that any special interest that attaches itself to the work of the shops with which I am connected comes from the spirit in which much of the work is created.

The matter of the revival of metal-work now rests largely with the architects. The public, I feel sure, are interested; and both in the organisation of which I am a member and in other organisations there are men who have shown themselves qualified to do work of fine character under reasonable business conditions. It is for the architects to say whether these small industries which are now growing slowly are to be allowed to flourish, in which case I feel great hope that the present century will become famous in all time for the distinction of its metal-work.

•• The foregoing Paper was illustrated by a collection of the tools of the craft.



III. ROMANCE IN METAL-WORK. By WALTER GILBERT (of the Bromsgrove Guild).

I FEAR the task which you have allotted to me of confining my thoughts on so immense a subject as metal-work to a few minutes is very great, and after the able addresses of my predecessors it is with sincere apologies I add mine.

I am not bold enough to imagine that I am able to show you any fresh views of the art of metal-work; to lay down any dogmatic formulae, or even to tell you of the most perfect period of the art which decorated the necessities of existence and developed in the pride of man's intellect, an art of which I am and can only be a student.

But in so far as it touches the personal appeal to me as an artist, I will endeavour to explain a little of that impulse which urges the artist to find expression in those methods and materials with which he feels in most sympathy, and which to my mind had the most influence in the development of the art.

The philosopher will tell you that every individual seeks to increase those feelings which give pleasure, and stifle those which cause him pain. The artist is wise in this knowledge, not only as regards himself, but, possibly unwittingly, he seeks further enhancement of relief and pleasure by conveying his knowledge and his experience, by means of his skill, to others. It is briefly this desire to please others—this eagerness to make others see with his eyes, to feel with his touch, that which is so great a source of pleasure to him—which impels the artist to train his faculties to the clearest pitch.

Primarily it is the emotion or imagination which creates the impulse to give expression in the language of the time; and when the intellect at the various periods reached its highest point, at that time the art burst its blossoms and enriched the world with the calm perfection of the Greeks, the grandeur of the Romans, the domesticity of the Gothic, and the grace and pomp of the Renaissance, and latterly the feeling of our own time, that the glory of



FIG. 1.

patriotism, which is best shown, is in the worship of her distinguished sons. I have said primarily it is the imagination, or rather, the consciousness of imagination—the ruling faculty in all art—which creates art. But the real art is something more than this; it is imagination allied with skill and dexterity in the creation of beauty. Beauty is the criterion of all art, the object of all human longing, and a source of human enjoyment. It is but to the most sordid and debased the great desire and the unfailing source of pleasure, and in such measure as the intellect is trained will that enjoyment be.

The perfect work of art is always the result of some emotional mood, and that work is the most perfect which conveys the dream of the artist most successfully and most fully. The necessity of the door-knocker on the door of the Palazzo Doria, in Genoa, never evolved art, but gave the opportunity to Cellini to express the emotion of defence which a closed door impels. The necessity of doors never gave to the Pisani the impulse to make their glorious creations, but the opportunity of placing on record the emotion they would experience in entering the Baptistery evolved these bronze doors.

The mere necessity of display of water never created Tubi's Fountain of Apollo the Sun-god at Versailles, but was used as an expression of the emotion the artist experienced when he thought of water, its position at Versailles, and its synonymity with the King at his Court. And I take this opportunity of saying, if I may rightly do so to justify my extravagance, that it was something of this emotion which caused me when designing a hand-rail for a small flight of marble steps for one of the most distinguished members of your profession to place a centaur in one volute hurling stones up the steps at a dryad peeping out of the opposite volute [fig. 1], remembering the days of my youth and the frequent use we made of books at school. It is a trivial thing, but an artist's amusement.

The Greek metal-worker or sculptor never sought nor received inspiration from plant form; we find nothing of this in his art save perhaps an occasional altogether subordinate sprig of foliage, for the perfect art must always possess the sensual element of beauty to attract and retain attention. Even to his amphoræ he gives lions' paws as feet; his handles are made of twining peeping serpents, suggestive of curiosity; or Medusa heads, suggestive of defiance of the examination of the curious; or outstretched hands impelling your fingers to grasp; or amorini restraining seahorses eager for the sea of wine those amphoræ contain.

The draughtsman's art and the affectation of delicacy of contour of line were evidently left for a later date. The work was bold and broad and vigorous. The one thing necessary was to caress and illustrate the emotions in their development of the perfect art—the most profound pleasure ensued. If the Roman loved the Bay and the Vine, it was not because of their plant form, but because the bay spoke to him of conquest and the vine was synonymous with the worship of Bacchus and all that revelry and riot of the empire which succeeded the severity and serenity of the Consulate years; and whenever the Roman silversmith introduces that foliage it is arranged, not in modern form, but in wreaths and garlands in such nature that it conveys to your imagination the room festooned and the crowns awaiting the heads of the revellers deep in the worship of their god [fig. 3, p. 162].

I said just now that forms of utility never evolved art, but that they were means of stirring the imagination; and in carefully studying some of the beautiful little bronzes in the Pierpont Morgan Collection, the Salting Collection, and the FitzHenry Collection in the South Kensington Museum, I was amazed at the extent to which the imagination of the great Italian and other masters of the Renaissance had been stirred by the purpose of the objects they had so lovingly and carefully designed.

The masters of the Renaissance took their bronze seriously in their use of it for all



Fig. 1.



Fig. 2.

articles great or small. What happier thought than in the inkstand of the school of Sansovino [fig. 4] in which the artist has endeavoured to tell you by the figure of Marsyas that men are bound by their written words—a lasting rebuke to arrogance; or this other one with Eros and the flaming torch [fig. 2, p. 162]—a little delicate suggestion that even in those days there were such things as love-letters to be written and victims to be obtained? What more delicate satire than this winged female sphinx for a door-knocker [fig. 5]? What more delightful fancy than the skill of this artist's presentation of a salt-cellar—a triton astride a dolphin bearing salt from the ocean [fig. 6, p. 164]?

But this was no original treatment on the



FIG. 4.



FIG. 5.

part of the masters of the Renaissance, and we can imagine that just as Petrarch and Ariosto were inspired by the masters of Greek and Roman literature, so the sculptors of that period were indebted to the Romans and Greeks for their ideals, and it is not far to seek for the source of origin when we see such an example of caressing the imagination illustrated in the use of the seahorse on this Roman water vessel [fig. 7, p. 164]; or Mercury counting his money in the handles of this vase of iron and bronze [fig. 8, p. 165], both belonging to the Pierpont Morgan Collection.

But there is a subtle difference between the work of the Greek—and with the Greek I connect the Roman—and the artist of the Renaissance which I feel (I speak of it only in parenthesis), because it supports a contention I often put forward when I hear some of our leading architects contend that no individuality of the metal-worker is required in the art on their buildings, but simply a repetition of the old work.

The great art of the Renaissance was not the copy of the art of the ancient Greeks, but the result of its inspiration. It was no possible for the Renaissance sculptor to more



FIG. 6.



FIG. 7.

embody the philosophic contemplation of a virtue in godlike form than it is for us to represent our age as one of splendid ceremonies and magnificent parades and pageantries. That age is dead and gone, and we are living to-day. Just as the Renaissance *littérateur* satisfied himself with rhetoric and well-rounded and polished sentences instead of the clear and limpid words of the Classic, so the metal-worker viewed his imagination through decorative spectacles and mysteries, and from that time onward the greatest artists have been those who have felt most strongly this fascination, and have become the poets of Death rather than of Majesty in human shape.

Hitherto in speaking of the Renaissance I have given my views more particularly on the masters of the Italian Renaissance, but in the North the dramatic passion, the sublimity of the imagination, the energy and earnestness of purpose, and truer sincerity of religion, together raised the ideal from what I have previously said had been the result of well-polished scholarship; this in itself was the subtle influence of the vigour and robustness of the long Gothic period.

We lose sight of the dancing girls and youths, crowned with the garlands, of Boccaccio, the inspiration to Donatello and Settignano; we lose sight of the shape and form and mystery of death of Petrarch, the subtle inspirer of Michelangelo; and see the fierce earnestness of Peter Vischer and his school in the tomb of Maximilian, or the homely wit of the German sculptor who symbolised human nature in this lock-case [fig. 9, p. 166], illustrating by the fall of man inherited curiosity to arrive at the forbidden; or, again, what truer example of religious earnestness than this lock to a bedchamber [fig. 10, p. 167]? Can we not imagine the emotion of trust and confidence the occupant of this chamber would feel each night when in closing the door her patron saint would be between her and harm? And the fact alone that her guardian angel had been so skilfully wrought into the handle of the lock would surely forbid unlawful entry and fortify her courage. And so I could go on giving you example after example, when in the best periods of art men did not scorn the highest



FIG. 8.

thought and fancy to even the smallest things; and I cannot imagine that then they thought to show their skill and care, and that appeal to the emotions was making too much of things so small. We certainly are not more artistic or keener lovers of the beautiful now than when every clerk could converse on art, and cities celebrated the masterpieces of their artists by pageants, and allotted special taxes for the triumphs of architecture. Why should we raise the contention now?

I have shown you in a way the influence which was at work amongst the metal-workers of the Greeks and Romans, the Gothic period and the masters of the Renaissance. I will now

endeavour to trace the influence which inspired later times. We have passed through the philosophic calm illustrated by the metal-work of the Greek, the pride of the Roman in his magnificence and extravagance for glory of self, the devout religious superstition and earnestness of the Gothic period, the learning and the attendant desire for knowledge of the Renaissance, its conflict with religion, and its desire for freedom, and arrive at that period in France when the kings dreamt of glory and expansion, and the love of France became manifest in the worship of its kings. Who can dispute but that it was this feeling which gave Lamour and Hervé the impulse to conceive the feeling and magnificence so royally expressed in the screens round the forecourt of the Palace of Stanislaus at Nancy [see headpiece, p. 145]. Who can doubt but that this courtly impulse was the origin of Guibal and Cyflé's



FIG. 3.

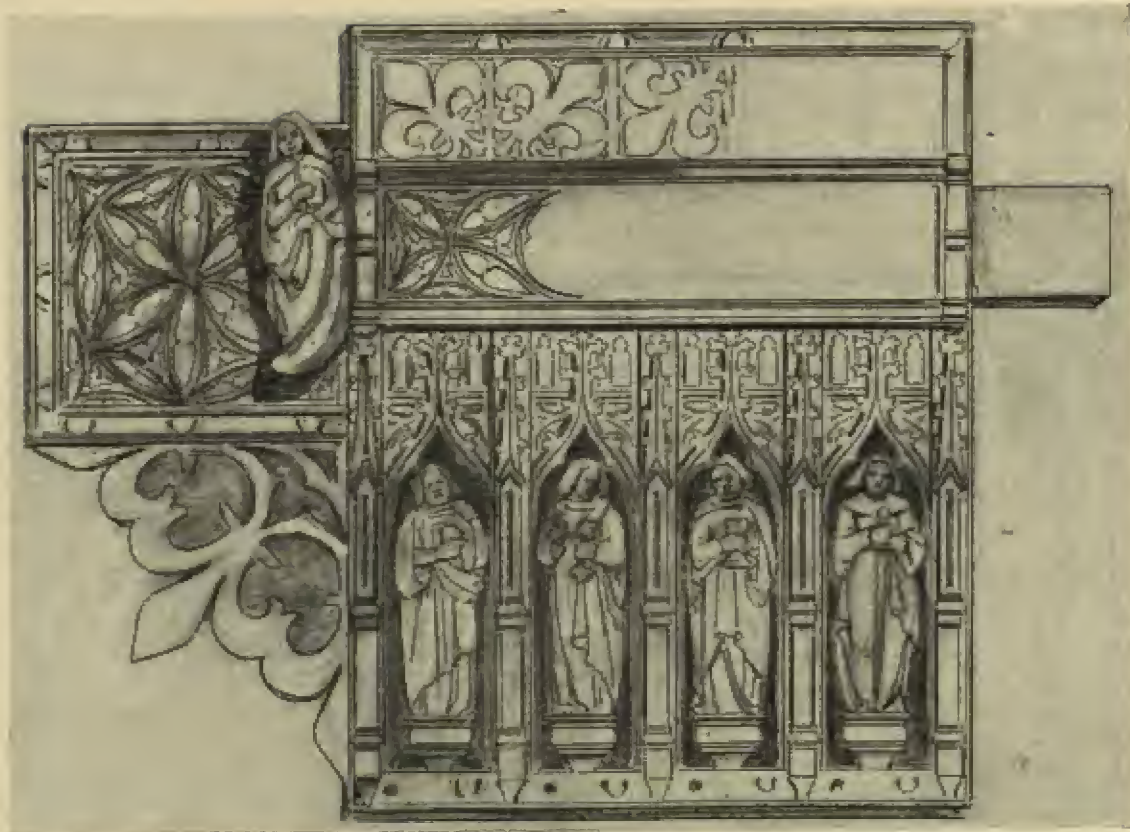


FIG. 49.

suggestion of Neptune and Amphitrite paying homage to Stanislaus? Or at Versailles who can look from the Fountain of Neptune and see through the bosquets in the distance the Palais, and not realise the amazing magnitude of the conception of the elder Adam and Girardon, the truly overwhelming grandeur of the sea-god with his court eager, as it were, for the expression of his supreme will? Who can doubt but that the sculptor of those lead figures expressed the all-pervading thought of the glory and magnificence of France personified in the monarch in that Palais, or by the personification of those figures on the upper terrace of all the rivers of France and their fruitfulness was not impelled by the desire to express that the rivers of France came to pay homage to the source of all their glory?

From the worship and adoration of patriotism in the person of their kings in the days of freedom and democracy it was a small stride to deify the republic, its progress and triumph, both in the abstract, as in this masterpiece of Dalou [fig. 11, p. 168], and in the personage of her most distinguished sons. Who can deny but that it is the glory of France that the metal-worker wishes to proclaim in forging those gates to the Apollo Gallery in the Louvre [fig. 12, p. 169], or in this statue to Delacroix [fig. 13, p. 170]? When Time, with Art applauding, holds up Fame to crown the painter with the wreath of immortality, who can deny but that the sculptor wished to proclaim the unsurpassable superiority of France in a golden age? Who can fail to see but that the sculptor wished to convey in this statue of Danton [fig. 14, p. 171] that France was the Fountain of Liberty, and that his countrymen, even the young throbbing with uncontrollable earnestness, were eager to

translate the doctrine of the freedom of brotherhood and glory of race at any cost for the glory of ideal? Or in the statue to La Fontaine that he wishes to tell you of the wit of this unsurpassable son of France [fig. 15, p. 172]?

And so I could go on telling you that under all great art of the metal-worker, whether



FIG. 11.

the thing to be done is great or small, there must always be the same working of the intellect, the same poetic feeling for the ideal in story, the same tenderness for material. No better example can be given than this by the great modern master in the loving treatment he adopted for the figure of St. Elizabeth of Hungary for the tomb of the late Duke of Clarence [fig. 16, p. 173]. It is the most beautiful treatment of one of the most noble attributes of royal

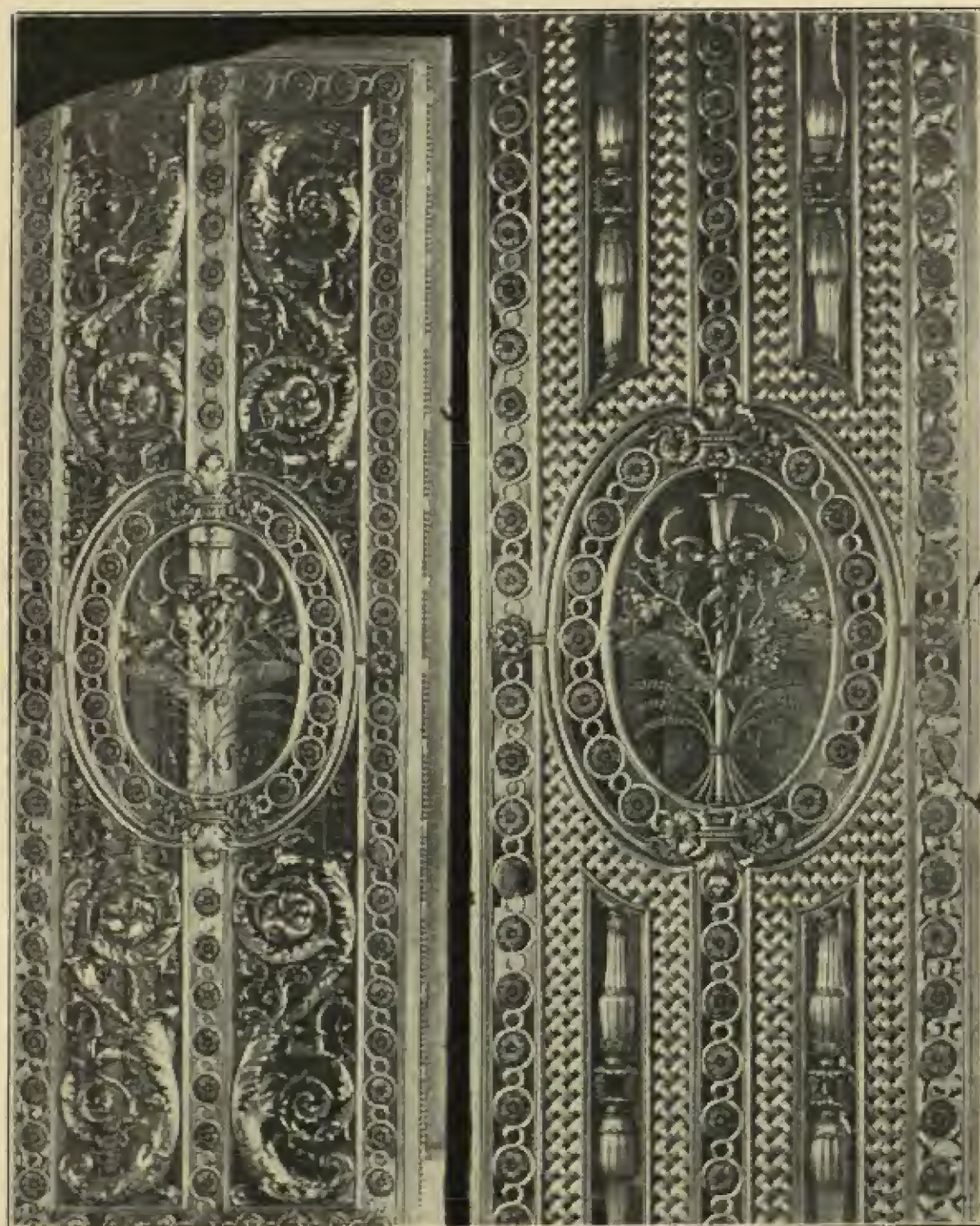


FIG. 12.



FIG. 10.



FIG. 14.



FIG. 15.

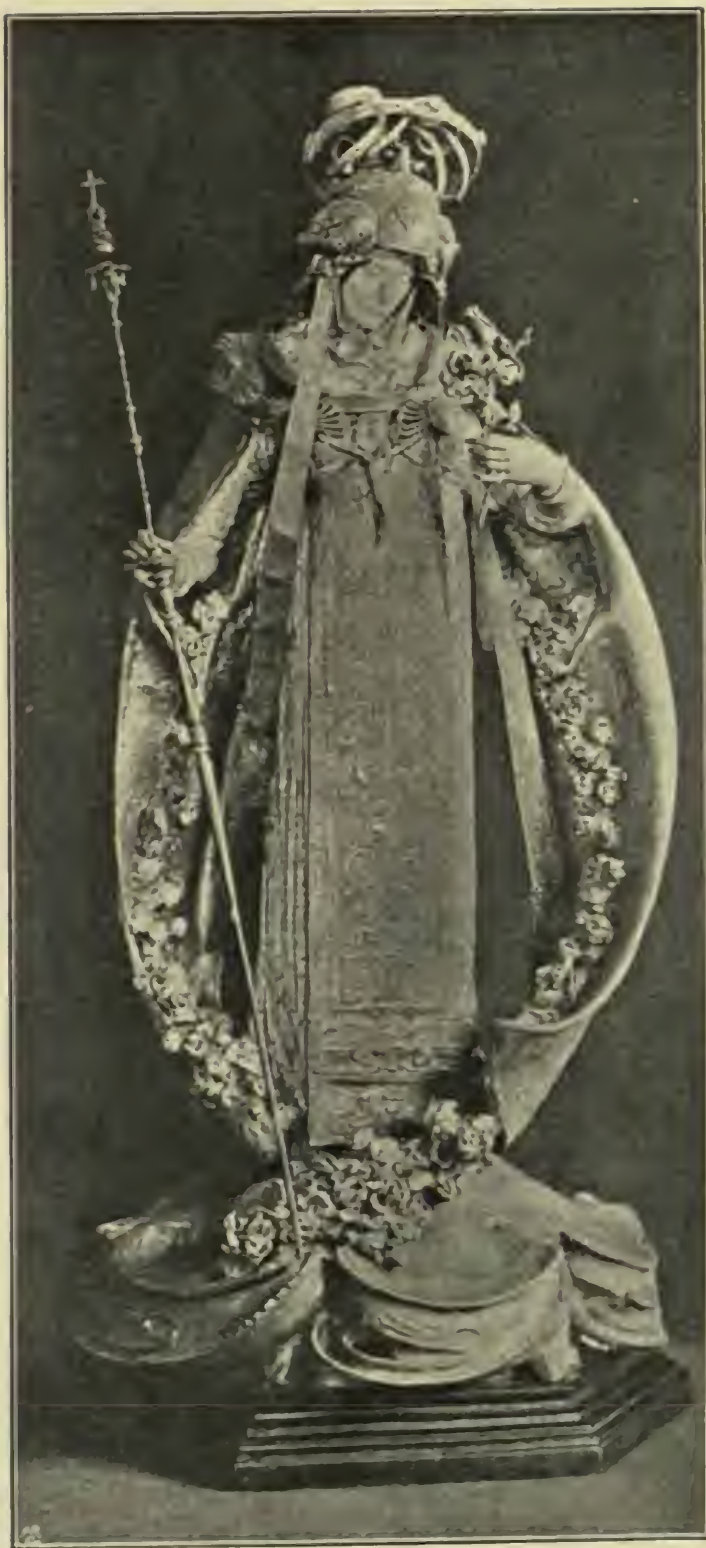


PLATE 10.

duty—royal charity and anxiety for the welfare of the children of the nation. Of such does great art come; and it is the duty of us all not to neglect the artist who can, as in the case of such a master mind as this, hand down the splendour of his country and the nobility of its aim and ideals.

Now for the future. Let us not hastily condemn any struggle for individual treatment; the past ages, as I have previously said, are past and gone—to be learnt from, not to be slavishly copied. The work was for a period of existence, and expressed the life of the time. To revive art, scholarship and intellectual training are necessary. Intellectual art is not to be ignored, nor is it debasing art to sell it; the old masters had their workshops for execution and their shops for the sale of their creations. What we require is, not too arbitrary an assertion on the part of the architect of what is good or bad, and for which often an architect owing to the enormous amount of work he has to deal with and to his present-day methods of training is not too well qualified to judge, but a stimulus to thought and energy for the artist, that the architect may gather round him a band of men working eagerly in close co-operation with him for the glorification of his buildings and an enhancement of his fame.

DISCUSSION OF THE FOREGOING PAPERS.

Mr. JOHN BELCHER, A.R.A., President, in the Chair.

Mr. GEORGE HUBBARD, F.S.A. [F.], in proposing a vote of thanks for the Papers, said that the three lecturers had approached the subject of metal-work from three entirely different points of view, and he thought that Mr. Swan's lecture was one of the most instructive that he had ever heard, giving as it did the early history of art metal-work. He was extremely pleased to hear Mr. Swan say that he thought that the Japanese were the Greeks of the present day in the excellence of their art in metal-work. Not only was it in the excellence of their metal-work, such as the Koinai work—which is unapproached by any other nation—but in their ivory carvings by their great artist Okawa and others, which for absolute perfection and truthfulness to every detail in nature are unequalled by the artists of any European country. It was extremely interesting to hear the description of the *cera perdata* process, which is so exceedingly well described by Benvenuto Cellini in his autobiography. He had never before had the opportunity of seeing this process in the casting of bronze, which was made so clear by the exhibits, showing how the wax was allowed to run out of the moulds and the gases allowed to escape. It was thanks to such lectures as these that architects got an insight into the inner workings of the arts they were supposed to practise, and the thanks of the audience were due to the lecturers that evening for coming down to instruct them. Mr. Fordham had treated the subject from a practical point of view, as seen in the workshops. Mr. Hubbard explained that in his innocence he had always thought that it was the smith whose "brow was wet with honest sweat," but he found that it

was not the smith at all, it was the "striker" who really should have earned that distinction. He could not help feeling, in spite of the wonderful tools that were used in the workshop, that the work produced to-day in England was far inferior, from an artistic point of view, to that of France or Germany, and certainly no country to-day equalled the art of the mediæval metal-workers. The beautiful set of slides exhibited by Mr. Gilbert were most interesting and instructive, for they showed how the sentiment of the designer was embodied in his work, and the inspiration of this sentiment contributed to the perfection of the art he practised. He expressed the gratitude he felt, and the gratitude felt by all present, for the able and interesting Papers they had heard.

Mr. C. HARRISON TOWNSEND [F.], in seconding the vote of thanks to the three gentlemen who had contributed so much to their knowledge of the subject treated, said he had been asked by Mr. Fordham to convey to the Meeting his apologies for having to leave before the proceedings closed, and expressed his own regret that Mr. Fordham was not present to receive their thanks for his admirable Paper. Mr. Fordham had contributed to the interest of the evening by opening the door of the craftsman's workshop, and showing them the implements with which he worked, and how he used them. Mr. Swan, on the other hand, who had been retrospective in the opening of his Paper, became, perhaps, rather too hopeful at its close when he led them to dream dreams of a London where their statues might not only be washed clean from time to time, but might even be occasionally gilded. He did not, however, know

whether the record of what their statues had gone through in this latter process was such as to make them wish to continue or repeat the experiment, when they remembered, for instance, the monument at the top of Sloane Street, from which the County Council had had recently to remove the last lingering vestige of gilding. Mr. Walter Gilbert, finally, had imported into his subject what was a necessary factor in speaking of art—viz. sentiment, and he had shown them what was the inspiring cause and what was the ideal of the beautiful works he had illustrated by his slides. He had pointed out that the artist could, as Emerson said, "give to even pots and pans all the glitter of romance."

THE PRESIDENT, in putting the vote of thanks, said they were all very grateful to the readers of the Papers. He must express his special thanks to Mr. Swan for coming among them and giving his most interesting and delightful Paper, full of enthusiasm and, if he might say so, profound knowledge modestly veiled. They were greatly indebted to him for the beautiful examples of work he had brought for them to see. He quite felt with Mr. Swan how terrible is that dead blackness of our statues in London. He could only wish with him that some means might be found for keeping them clean and bright. The County Council, or other authority, had endeavoured to keep them clean, and had coloured some of the statues with a sort of patina, which in its shiny condition looked very much like Cadbury's chocolate! But even that did not last long: the shine still remained, but the colour disappeared. Various attempts had been made to brighten the statues by gilding, as Mr. Townsend had referred to in Mr. Onslow Ford's statue of Lord Strathnairn at Sloane Street. Parts of the statue had been gilded—all the feathers in the hat, for instance; but it did not last very long, and the County Council had evidently given it up as hopeless, for there was nothing left now in the way of gold. The only thing he saw the last time he passed it was a bird's nest in the middle of the feathers, with the loose straw hanging down, which did not much improve the effect! Certainly they had the Prince Consort Memorial, where the statue had been gilded again; but up to the second gilding it looked a very black apex to the pediment of white sculpture at the base; and it was not a very great success. They had again Gilbert's fountain, where the top figure was, he believed, aluminium. He remembered Gilbert saying he hoped it would keep its colour; but it had got as black as the rest of these monuments. True, it had lately been cleaned, and now it looked like Portland cement! Mr. Swan had referred to the Duke of Wellington's statue, which he always admired. When he (the President) last saw it at Aldershot it had a most delightful colour: it was in some parts brilliant green—every feather of the hat was bright green—and the effect

was most festive. He was glad to hear Mr. Swan refer to the columns of St. Martin's Church. The silver grey of the washed side of the columns had a most delightful effect. He knew the public generally took it to be a fault of Portland stone that it should be grey on one side and black on the other. Efforts had been made indeed to wash the whole of the exterior of St. Paul's and other buildings of Portland stone in order to get rid of it. It was, however, one of the beauties of Portland stone. The contrast was beautiful. The black intensified the appearance of the silver grey of the stone. Mr. Montague Fordham had given them a great deal of information of value to them. There was no doubt that the more architects knew of the details of the craftsman's work, and the limitation of their craft, the better it was for them. That might be said indeed of all the arts. The more they could familiarise themselves with the methods and processes adopted by various craftsmen the better they should agree when working together. He could not quite follow Mr. Fordham with regard to his lecture to architects. If architects found themselves associated with a good artist they would stick to him; but if they were at any time supplied with bad work, then they would not employ him again. That was the whole secret of the business. It was not a question of what the artist called himself, whether he worked in a society, a company, or a guild. So long as his work was good the architect would respect him and stick to him. Mr. Gilbert's Paper was most delightful—intellectual and poetical; and his allusion to "purpose" in art applied to all—quite as much to architecture as to metal-work or any other craft. The illustrations shown reminded them in a most delightful way of how "purpose" in art assists the artist in giving expression and character to his work.

MR. JOHN M. SWAN, R.A., replying to the question *re* ancient castings, said that in the old tombs of Japan had been found stone moulds which were used in the bronze age for castings, and of course the swords must have been beaten bronze. He had particularly mentioned solid bronze because there was solid casting of solid lead. He had brought a specimen bearing upon that particular subject. It stood their climate so well, especially in old fountains and garden statues. Touching again on that point, he had brought a few specimens of coins of the time of Hadrian, showing the various patinas caused by the various earths and salt marshes in which they had been buried, and the iodine of salt water or sea.

MR. WALTER GILBERT, responding to the vote of thanks, said with regard to the question of gilding, that if the architects would only back up the artists in this matter there would be a great deal more gilding done; but their modesty as Englishmen made them afraid of having too much show.



9, CONDUIT STREET, LONDON, W., 27th Jan. 1906.

CHRONICLE

The President's "At Home."

Some two hundred and fifty members, metropolitan and provincial, were recipients of the President's hospitality at the "At Home" held in the rooms of the Institute on Monday evening, the 15th inst. Invitations had been accepted by a much larger number, but many were doubtless prevented from coming by the heavy rain which set in towards night. A feature of the evening was the interesting exhibition of working drawings that the President had been able to arrange for the occasion. The exhibition, which was generally representative of current practice, consisted of working drawings and views of buildings, public, commercial, and domestic, erected or in course of erection by the following architects: Mr. Reginald Blomfield, A.R.A., Messrs. G. F. Bodley, R.A., and Gilbert Scott (who sent drawings of Liverpool Cathedral), Mr. Wm. Flockhart, Messrs. Ernest George & Yates, Messrs. Lanchester & Rickards (Deptford and Cardiff Town Halls), Mr. Ernest Newton, Professor Beresford Pite, Mr. Leonard Stokes, and Sir Aston Webb, R.A. (Royal College of Science and Victoria and Albert Museum). Advantage was also taken of the opportunity to show some Institute treasures which from lack of accommodation for their proper display have had to remain stowed away out of sight. The most interesting of these was the series of casts of consular and ecclesiastical diptychs, tablets, casket-lids, panels, &c., dating from the early centuries of the present era, many of them beautiful specimens of the sculptor's art. There were also on view a series of architects' medals, and tokens struck in commemoration of historic events, the opening of notable buildings, &c.

THE PRIZES AND STUDENTSHIPS 1906.

Council's Deed of Award.

The Designs and Drawings submitted for the Institute Prizes and Studentships are now on exhibition in the Gallery of the Alpine Club (entrance in Mill Street, Conduit Street, W.).

The Council's Deed of Award, read at the General Meeting of the 22nd January, gives particulars of the competitions and the results thereof as follows:—

THE ROYAL INSTITUTE SILVER MEDALS.

(i.) *The Essay Medal and Twenty-five Guineas.*

Six Biographies of British Architects (deceased) practising in the Nineteenth Century were received for the Silver Medal under the following mottoes:—

1. "Our Athenian."
2. "Terra Incognita."
3. Device of a Volute.
4. "Ars longa vita brevis."
5. "Gargoyle."
6. "Shingalee."

The Council have awarded the Medal and Twenty-five Guineas to the author of the Biography of "George Devey, F.R.I.B.A. (1820-1886)," submitted under motto "Terra Incognita" [Walter Hinde Godfrey, 11 Carteret Street, Queen Anne's Gate, S.W.], and Certificates of Hon. Mention to the authors of the Biographies bearing the mottoes respectively of "Gargoyle" [Martin Shaw Briggs A.L., Wharfedale, Otley] and "Shingalee" [Albert E. Bullock, 45 Fairlawn Avenue, Chiswick, W.].

(ii.) *The Measured Drawings Medal and £10 10s.*

Fifteen sets of Drawings were sent in of the various buildings indicated, and under mottoes as follows:—

1. "A.D. 1690": 6 strainers (Hampton Court Palace).
2. "Ami": 4 strainers (Château de Montmirail, Sarthe, France).
3. "Aus Picante Deo": 4 strainers (Queen Anne's Orangery, Kensington).
4. "Fiat Lux": 6 strainers (Le Grand Trianon, Versailles).
5. "K": 6 strainers (Banqueting Hall, Kensington Palace).
6. "Mecca": 5 strainers (St. Alfoe, Greenwich).
7. "Omega": 6 strainers (St. Anne's Orangery, Kensington Palace).
8. "Qui s'excuse s'accuse": 6 strainers (Le Petit Trianon, Versailles).
9. "Reflex": 5 strainers (St. Stephen's, Walbrook).
10. "San Marco": 6 strainers (Santa Maria del Miracoli, Venice).
11. "Sansovino": 6 strainers (Old Library of St. Mark's, Venice).
12. "Sigillu Ecclesie Trinitatis d. Totham": 5 strainers (Christchurch Priory, Hants).
13. "Try": 6 strainers (St. Peter Mancroft, Norwich).
14. "Vil God i Zal": 6 strainers (Castle Menzies, Abertfeld).
15. "Wren": 4 strainers (Banqueting Hall, Kensington Palace).

The Council have awarded a Silver Medal and Ten Guineas to the delineators of Hampton Court Palace and Christchurch Priory, submitted under the mottoes respectively of "A.D. 1690" [Albert Edwin Poley, Willowbank, Hampton Hill] and "Sigillu Ecclesie Trinitatis d. Totham" [George John Coombs, 25 Portman Road, Boscombe], and a Certificate of Hon. Mention to the delineator of

Santa Maria dei Miracoli, submitted under the motto "San Marco" [Percy Wells Lovell, 18 Hampstead Lane, Highgate].

THE TRAVELLING STUDENTSHIPS.

(i.) The Soane Medallion and £100.

Ten designs for a Realisation of the Ideal Mansion described in Bacon's Essay "Of Building" were submitted under the following mottoes:—

1. "Comme Ci": 4 strainers.
2. "Fraxinelle": 4 strainers.
3. "John Thorpe": 4 strainers.
4. "Palazzo": 5 strainers.
5. "Peruzzi": 5 strainers.
6. "Regal": 5 strainers.
7. "Viscount": 6 strainers.
8. "White Lion": 6 strainers.
9. "Zed": 6 strainers.
10. Device of a Bee on the Wing: 5 strainers.

The Council have awarded the Medallion and (subject to the specified conditions) the sum of One Hundred Pounds to the author of the design bearing the motto "John Thorpe" [Walter S. George, Oakenclough, Limehurst, Ashton-under-Lyne] and a Certificate of Hon. Mention and Ten Guineas to the author of the design with the motto "White Lion" [Robert Atkinson, 29 Sherwin Road, Lenton, Nottingham].

(ii.) The Owen Jones Studentship and £100.

Five applications were received for the Owen Jones Studentship from the following:—

1. W. J. Davies: 6 strainers.
2. Matthew Dawson: 6 strainers.
3. Charles Gascayne: 6 strainers.
4. A. R. H. Jackson: 6 strainers.
5. Arthur D. Nicholson: 6 strainers.

The Council have awarded the Certificate and (subject to the specified conditions) the sum of One Hundred Pounds to Mr. Charles Gascayne, 6 Gray's Inn Square, W.C., and Five Guineas each to Messrs. W. J. Davies [A.], Thornton Dene, Sidcup Park, Kent; A. D. Nicholson, 7 Park Grove Terrace, Glasgow West; and A. R. H. Jackson, c/o Professor Beresford Pite, Royal College of Art, S. Kensington.

(iii.) The Pugin Studentship and £40.

Twelve applications were received for the Pugin Studentship from the following:—

1. J. W. Carter: 5 strainers.
2. G. Drysdale: 6 strainers.
3. Walter S. George: 6 strainers.
4. Jordan Green: 6 strainers.
5. T. Gordon Jackson: 6 strainers.
6. W. H. MacLucas: 6 strainers.
7. Oswald P. Milne: 6 strainers.
8. J. R. M. Morison: 6 strainers.
9. J. S. Richardson: 6 strainers.
10. G. S. Salomons: 6 strainers.
11. H. W. Simister: 6 strainers.
12. B. Cecil Westwick: 3 strainers.

The Council have awarded the Medal and (subject to the specified conditions) the sum of Forty

Pounds to Mr. G. Drysdale, and a Certificate of Hon. Mention to Mr. Jordan Green [A.], 33 South Road, Handsworth, Birmingham.

(iv.) The Godwin Medal and £65.

Five applications were received for the Godwin Bursary from the following:—

1. Alfred E. Corbett.
2. C. E. Power.
3. F. Tomlins.
4. H. Inigo Triggs.
5. A. H. Verstage.

The Council have awarded the Medal and (subject to the specified conditions) the sum of £65 to Mr. H. Inigo Triggs [A.], 8 South Parade, Bedford Park, Chiswick.

(v.) The Tite Certificate and £30.

Twenty-one Designs for an Open-air Swimming-Bath with an Arcaded or Colonnaded Enclosure were submitted under the following mottoes:—

1. A.D. 1906: 5 strainers.
2. Ajax: 4 strainers.
3. Aqua: 4 strainers.
4. Aquarius: 6 strainers.
5. Aristobolus: 4 strainers.
6. Bo'sun: 4 strainers.
7. Cui Bono? 5 strainers.
8. Dolphin (white strainers): 4 strainers.
9. Dolphin (brown strainers): 4 strainers.
10. Dorian: 5 strainers.
11. E Pluribus Unum: 4 strainers.
12. Ellipse: 4 strainers.
13. Flat Lux: 5 strainers.
14. Holden Gray: 6 strainers.
15. K.L.: 5 strainers.
16. Michaelange: 4 strainers.
17. Pleiades: 2 strainers.
18. Seed: 5 strainers.
19. Sphinx: 6 strainers.
20. Ultra: 5 strainers.
21. 1905: 5 strainers.

The Council have awarded the Certificate and (subject to the specified conditions) a sum of Thirty Pounds to the author of the design bearing the motto "Dolphin" (white strainers) [Alick George Horsnell, South Primrose Hill, Chelmsford], a Medal of Merit to the author of the design under motto "Ellipse" [Charles Bulman Pearson, 12A Cheapside, Lancaster], and a Certificate of Hon. Mention to the author of the design under motto "Dorian" [Cecil Laurence Wright, 66 Bolingbroke Road, W. Kensington, W.].

THE ARTHUR CATES PRIZE: £40.

One application for the Arthur Cates Prize was received from Mr. John Hatton Markham [A.], 9 Glenbrook Road, West Hampstead, N.W., and the Council have awarded him the prize.

PRIZE FOR DESIGN AND CONSTRUCTION.

The Grissell Gold Medal and £10 10s.

Six designs for a Stone Skew Bridge were submitted under the following mottoes:—

1. "Bydand": 3 strainers.
2. "Catenary": 3 strainers.
3. "Eucatus Poratus": 6 strainers.
4. "N3": 4 strainers.
5. "R": 6 strainers.
6. "Utile Dulei": 3 strainers.

The Council have awarded the Medal and Ten Guineas to the author of the design bearing the motto "Utile Dulei" [George Nott, 8 Market Street, Leicester].

THE ASHPITEL PRIZE 1905.

The Council have, on the recommendation of the Board of Examiners (Architecture), awarded the Ashpitel Prize to Mr. John Hatton Markham [A.], 9 Glenbrook Road, West Hampstead, N.W., who was registered Probationer in 1900, Student in 1903, and passed the Final Examination in June 1905. The Council have further awarded a Prize of Books, value £10, to Mr. Albert Robert Myers, 206 Bruntsfield Place, Edinburgh, in recognition of his meritorious work at the Special Examination, November 1905.

THE TRAVELLING STUDENTS' WORK.

Soane Medallist 1904.—The Council have approved the drawings executed by Mr. Frederic J. Horth, who was awarded the Medallion in 1904, and who studied in Italy.

Owen Jones Studentship 1904.—The Council have approved the work of Mr. Wm. Davidson, who was awarded the Studentship in 1904, and who studied in Italy.

Godwin Bursary 1904.—The Council have approved the Report of Mr. H. Phillips Fletcher [F.], who was awarded the Godwin Bursary 1904, and who visited the St. Louis Exhibition.

Godwin Bursary 1905.—The Council have approved the Report of Mr. F. R. Hiorus [A.], who was awarded the Godwin Bursary in 1905, and who has reported on Municipal Administration in France.

Pugin Studentship 1905.—The Council have approved the work of Mr. Edward Garratt, who was elected Pugin Student for 1905, and who travelled in Oxfordshire, Somerset, Dorset, Gloucestershire, Wiltshire, and Hampshire.

Tite Prizeman 1905.—The Council have approved the work of Mr. R. Atkinson, who was awarded the Tite Prize in 1905, and who studied in Italy.

The Deed of Award bears date 22nd January 1906, and is signed by John Belcher, *Chairman*; John Slater, C. Harrison Townsend, Alfred W. S. Cross, *Members of Council*; Alexander Graham, *Hon. Secretary*; W. J. Locke, *Secretary*.

Seventh International Congress of Architects, 1906.

The Executive Committee have made arrangements to take the whole of the Grafton Galleries, Grafton Street, Regent Street, as the headquarters of the Congress during its meeting in London next July.

A Beautiful London.

Lord Plymouth [H.A.], who, it will be remembered, as Lord Windsor held the office of First Commissioner of Works and Public Buildings in the late Government, in an article with the above title in the *Tribune* of the 22nd inst. says:—"The time has passed, let us hope, when London—even educated London—was indifferent to art and architecture. The traffic problem has given the spur to many of London's latest improvements in the direction of street widening, and, as a consequence, much rebuilding of shop fronts and business premises is being found necessary. Neither Government nor municipalities can exercise any control over the designs and elevation of buildings (unless they are the owners of the land, and in a position therefore either to build themselves, or to make agreement with their building tenants), except in so far as the law enables the London County Council to make regulations limiting the height of houses or controlling their structure for purposes of securing air, light, and sanitation.

"So long as the present system prevails, so long must we suffer from this uncontrolled variety of individual tastes, where the owner is not concerned with any other building than his own, and selects his designs without reference to the height and style of the surrounding houses, or, still worse, with the advertising object of cutting his neighbour out. Happily there are signs that the private owner is not wholly indifferent to good architecture—indeed, there are notable instances to the contrary in some of the streets in the City and in the West End. I am far from advocating complete uniformity in the style of houses. Variety is characteristic of London, and, softened by the smoky atmosphere, it adds much to the general picturesqueness of our capital.

"But what really is wanted is some continuity of idea and effect in dealing with the finer sites of the metropolis. With Somerset House and Waterloo Bridge as the starting-point, what might the Embankment have become had there been some guiding spirit to direct and control the great building operations of the past fifty years? Whitehall is another instance of a magnificent site (being the main approach to Westminster Abbey and the Houses of Parliament) which loses in effect from the absence of any general scheme or design.

"Whatever architectural merit the Government offices may possess individually, they are the works of different architects who appear to have paid but scant attention to the relation of their own buildings to those immediately surrounding them. (I do not speak of the blocks of Government offices now in course of erection.) Hence the present effect of patchwork, which it is almost too late to

remedy. From the nature of the case, the Government having to acquire the land and erect the buildings as they were required, no complete scheme could have been carried out for a considerable time; but the point is that no general design for utilising the frontages of Whitehall has ever been adopted, if, indeed, it ever existed; and that by the exercise of some foresight and by continuity of policy, Whitehall might have become a splendid thoroughfare of well-proportioned and well-balanced Government offices, which would have been designed, not only with some regard to each other, but with much regard to the elevation of the Banqueting Hall and the Horse Guards.

"It is useless to lay the blame of this neglect upon successive Governments or First Commissioners of Works. The length of the latter's tenure of office is uncertain; if his ordinary work is properly looked after, little time is left for the initiation of big schemes for buying out and improving London, and it is a matter of history that the projects and schemes of some First Commissioners have been entirely upset by their successors. Neither has the London County Council any power or control over buildings outside the limits previously stated. What, then, is to be done?"

"Sir Aston Webb, when President of the Royal Institute of British Architects in 1903, strongly urged the necessity of establishing some permanent consultative body, to whom questions of public improvements might be referred. Mr. John Belcher, President in 1904, went still further, and proposed that the First Commissioner of Works should act as a Minister of Fine Arts—possessing the necessary despotic powers—with the aid of an advisory committee; and the creation of a Ministry of Fine Arts has, in the September number of the *Nineteenth Century*, found a powerful advocate in Mr. M. H. Spielmann.

"There is, no doubt, much to be said for the sweeping change that would be brought about by the creation of a Minister of Fine Arts, the most important, perhaps, being the co-ordination of matters, generally of an artistic character, which are now controlled by various departments, under one head. But before this were done the most careful consideration would have to be given to the powers with which this new Minister and his department were to be invested; and to transfer the control of matters hitherto successfully performed by various bodies to a new and untried department could not be done hurriedly or with a light heart.

"Seeing, therefore, little prospect of such a Minister being appointed in the near future, I think that much good might be done, or to put it conversely much harm might be averted, by proceeding on the lines suggested by Sir Aston Webb, and by establishing some permanent advisory committee to which in the first place the Govern-

ment might refer matters touching the erection or improvement of public buildings and national monuments under their control.

"If such a committee were properly constituted its authority would very soon be recognised, and it might then be possible to give it wider influence and to deal, without unduly trespassing on the individual rights of private persons, with other than Government buildings—at least in certain defined positions where the style and character of an elevation were considered of supreme importance."

Appointment of District Surveyors.

Mr. Thomas Henry Watson [F.], President of the District Surveyors' Association, has addressed the following letter to the London County Council:—

8th Jan. 1906.

MY LORDS AND GENTLEMEN,—I am desired on behalf of the District Surveyors of London to address you on the question of certain proposals which have been submitted to you by your Building Act Committee involving very serious and important changes in the terms of the appointment of District Surveyors.

From the report of the Council's proceedings as printed, to which our attention has been drawn in the public Press, it would seem that the changes suggested would include:—

1. (a) A reduction in the number of districts from 57 to 33.
- (b) A consequential increase in the size of the districts.
- (c) A corresponding diminution in the number of qualified professional men acting with statutory authority.
- (d) A consequential devolution of a large portion of the work of supervision to a number of assistants.
2. A dual system of payment of District Surveyors
 - (a) by salary in respect of the duties they perform under the London Building Act, 1894, and
 - (b) by fees in respect of their duties under the Amendment Act of 1905.
3. The payment of building fees to the Council in respect of works executed under the Act of 1894 and to the District Surveyor in respect of works executed under the Act of 1905.

It will be manifest that changes such as these may easily lead to confusion and misunderstanding, and tend to increase the difficulties of efficient administration of the law.

The District Surveyors respectfully submit that the supervision of building operations has been carried out by highly-trained men—many of whom have occupied the highest positions in their profession—that the public has grown accustomed to pay professional fees for professional services, thus adequately rendered, and it is at least doubtful whether the suggested payment by salary will attract educated men of the first ability; from a professional point of view therefore the reflection suggests itself that changes in the direction indicated above may not be in the interests of the best and most efficient administration of the Building Laws.

The District Surveyors do not wish to suggest that there may not be points of detail in the present system which may with advantage be altered, and they desire me to add that they will be happy, by conference or otherwise, to assist the Council in its efforts to improve a system which, in the opinion of many, has hitherto worked to the public advantage.—I am, &c.,

THOMAS HENRY WATSON.

Alexander Thomson Travelling Studentship.

The Council of the Glasgow Institute of Architects, Trustees of the Alexander Thomson Memorial, announce that they have awarded the Prizes in their gift to the following:—First Prize, £60, to Mr. James Whitelaw, of Loanroft, Uddington; Second Prize, £20, to Mr. F. M. Craik, 136 Stanmore Road, Glasgow. The subjects set competitors were: (1) A Study of a Classic Building; (2) Design for a Cascade and Portico in a Public Park. The winner of the first prize is required to go on a sketching tour for three months in pursuit of his architectural studies; and the second to spend three weeks making drawings from the reproductions of Classical Buildings in the British Museum, or elsewhere, as the Trustees may agree to. These prizes are competed for every third year.

American Architects' Directory.

A copy has been received of the *American Architects' Directory and Specification Index for 1905-1906* (W. T. Comstock, 23 Warren Street, New York), being the seventh year of issue. It contains a complete list of the architects of the United States and Canada, classified by States and towns, indicating those who are members of the American Institute of Architects; also the names of the officers and locations of the different architectural associations in the United States. A specification index of prominent dealers and manufacturers of building materials and appliances, and a list of the building departments of the leading cities, with the names of the principal officers, are included in the present issue.

MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session 1905-06, held Monday, 22nd January 1906, at 8 p.m.—Present: Mr. John Belcher, A.R.A., *President*, in the Chair, 41 Fellows (including 15 members of the Council), 49 Associates (including 2 members of the Council), 2 Hon. Associates, and several visitors—the Minutes of the Meeting held 8th January [p. 134] were taken as read and signed as correct.

Mr. Howard Chatfield Clarke, *Fellow*, attending for the first time since his election, was formally admitted by the President.

Papers on METAL-WORK were read and illustrated by Messrs. John M. Swan, R.A., Montague Fordham, M.A., and Walter Gilbert.

The Secretary having read the Deed of Award of Prizes and Studentships 1906, made by the Council under the Common Seal [*ante*, p. 176], the sealed envelopes bearing the notices of successful competitors were opened and the names disclosed.

The Meeting then proceeded to the discussion of the Papers on Metal-work, and a vote of thanks was passed to the authors by acclamation.

The proceedings were brought to a close at 10.15 p.m.

ALLIED SOCIETIES.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

At the rooms of this Society on Thursday, the 11th January, a paper was read on "The Better Housing of the Artisan Population" by Mr. W. P. Rylatt, who won the prize for an essay on the subject. Mr. Rylatt said: "The question of the housing of our artisan population is one of the greatest problems of the present day. Ever since 1851, when the attention of Parliament was first drawn to the disgraceful state of the houses of the artisan classes in London and in other large cities, Acts have been passed and measures taken to improve the condition of these dwellings. A very great fact in the health of the people, physical and mental, is a cheeriness of surroundings and a pleasant outlook obtained by providing plenty of open spaces, laid out as gardens, such as is carried out on the Millbank estate in London. Many difficulties are met with in carrying out schemes of workmen's dwellings in large cities, one of which is the high price of land, and another is the increase, of recent years, of the cost of materials and labour. Every advantage should be taken of cheaper methods of building, and perhaps a more reasonable application of the by-laws by the local authorities would allow more latitude in this respect. In a workman's dwelling scheme everything should be cheap and simple, consistent with good workmanship. The most economical plan of tenement buildings is a parallelogram, two rooms deep, and with a common staircase, everything, as far as possible, fire-resisting. All staircases, landings, and passages should be reduced to a minimum. To bring a little brightness into the lives of the tenants the buildings might be planned round a paved court or quadrangle, opening into a street by one or more archways, and laid out with flower-beds. This court might be overlooked from balconies on each floor. Much might be done by providing cheaper and quicker means of transit by electric car and railway to enable the better class of artisan to live in the suburbs, and so leave more dwellings in the congested parts of the city for the poorer class of workmen. In providing dwellings for the artisan class private enterprise has signally failed, and there are acres and acres of jerry-built property in the suburbs, which probably in a few years will fall into a condition almost as bad as that of the wretched dwellings now being cleared away in our slums. The problem of the housing of the agricultural labourer in the country naturally does not attain the vast proportions of the same problem in the city. In this case a cottage, costing from £100 to £130, everything included, is needed. To effect this, purely local materials and labour should be utilised as far as possible."



ADDRESS TO STUDENTS. Delivered by the President, Mr. JOHN BELCHER, A.R.A.,
at the General Meeting, Monday, 5th February 1906.

FELLOW-STUDENTS, LADIES AND GENTLEMEN,—

I PROPOSE to put before you this evening a few suggestions as to the methods—or rather I should say, method—of constructive thought in design. As a matter of fact there is only one such method for any artist, whatever be the vehicle he choose to work in. The arts are all closely allied—at any rate in their methods—and the order of thought-development in each is one and the same. My friend Alfred Gilbert the sculptor once insisted that there was another way, called the “fluke,” and that he was sure from his observation a great many more designs were produced in that than in any other way. But surely this must be a libel! I won’t venture on the statement that I have had no experience of that sort, but I am not anxious to talk about it, and it wouldn’t help you if I did. For the one thing the youthful aspirant needs most to have rubbed into him—in season and out of season, if necessary—is that without hard study and adequate thought he will never do anything really good.

The intelligent study of mental processes in design, and the knowledge of the order of thought to be observed, is not unimportant; for, though many follow this order instinctively and unconsciously, yet, seeing that our mental faculties are our armoury, it is good to know what weapons we have at our command, and how and when to employ them.

I am not a philosopher—not even a psychologist; but I have observed and analysed mental processes both in myself and others; I have also gathered light from the analogy that exists in the arts generally—and so I hope that I may be able to say something on this point that will help you in your work. First of all, then, and as a preliminary, a suitable environment must be found. Not necessarily a literal environment of persons, places and things, but at any rate of thought and mood. Environment is nowadays more a matter of character and temperament than of locality. Whithersoever a man betake himself, it needs powers of self-government and mental concentration to escape the insistent shouts of commercialism and the prosaic business claims which are so apt to usurp an undue share of our attention. Yet, if the imagination is to be free for visions of beauty or even of dignity, if thought is to rise to the expression of noble purpose, the soul of the man must be able to take flight on occasion into the “serene” of the summer sky, leaving the earth and its cares to look after themselves for a time.

Psychologists tell us that moral education is dwarfed, or even impossible, unless a man has a certain amount of leisure time for the free play of his moral faculties. Certainly, too, the soul of the artist will perish within him unless he learn to withdraw himself at will into the higher realms of imaginative vision, where no sordid purpose or ignoble thought can live.

Given the right conditions, we may now proceed to analyse the working of thought in design. Let us remember, in the first place, that architecture "speaks." The power of speech—the noblest of gifts to man—is seen in all true art. In language words are symbols, and by their combination into sentences thought is conveyed, the punctuation of such sentences into primary and subordinate clauses, together with other qualities of proportion and rhythm, determining the value and relation of the several ideas expressed therein. Exactly the same in architecture—forms are combined to appeal to the imagination and express purpose. One form of opening in a wall will convey the idea of ingress or egress, another the means of looking out or receiving light. This may be called the "simple sentence," or, if you like, the prose statement of architecture; but when we proceed to the higher forms of combination, to the moulding of these symbolic forms into sequences and rhythmic order, then we begin both to express and to appeal to the higher kind of poetical and imaginative thought.

The same laws or principles hold good for the work of the painter and sculptor, both these arts in their higher qualities possessing the power of conveying to and impressing upon the imagination much more than they actually portray.

In music we have the most ethereal medium for speaking to the heart of man. Just as poetry can convey more than prose, just as there are musical sounds too high-pitched for the ear of man to catch them, so there are thoughts and emotions "too deep for words"—for which music provides the only adequate vehicle of expression.

Architecture has been termed "frozen music." Like both music and poetry, it is subjective in its appeal; for the same arrangement of lines and colours will suggest fifty different things to fifty different persons. A fine and imaginative work will reveal to each individual some vein or mood of his own, and this above and beyond what was actually present in the mind and purpose of the architect. Every true work of art possesses an inherent energy which will sway the imagination of others and discover to them meanings of which the artist himself may be unconscious.

The imagination, then, must be allowed a definite place, both in the production of a design and in that reflection which it induces in the beholder.

A good design usually has a definite origin in a germ idea, from which, as from a bud unfolding itself, must be slowly and patiently evolved the true position and relation of the several objects and parts.

In connection with this process of evolution it is worth noting that in architecture as in language the most powerful effects are sometimes gained by the simplest means. That statement is strongest which is given in fewest words—provided the words be adequate and suitable. Why? Because the mind is quicker than the lips; because the imagination can picture more rapidly than words can paint. So in our art there are occasions when the dignified and simple statement is not only the most appropriate but also the most effective. Not that this kind of statement affords a ready escape from toil; dignity and simplicity come with experience and thought.

An essential element in the production of a design—whatever the idea and purpose of the work—is "feeling," by which either sympathy or repugnance is called into play. It is by feeling that an architect makes his selection and develops and encourages definite tastes of his own. Feeling is his own private artistic assessor, to judge in the competition of the many ideas and suggestions that present themselves before his mind's eye, as it were.

In the projection of a design on paper, mental perspective plays an important part. Projected as it is on a plane surface, the relative distances of the several parts of a design can only be distinguished and appreciated at their proper value by an effort of thought. Time

was, as you are doubtless well aware, when designs were produced in a kind of geometric perspective, that the author might see all round his subject; now we do this mentally, or by developing each side simultaneously.

During the whole process of development and selection the purpose of the work must be kept constantly in view, with the object of bringing out in stronger relief every feature and detail by which this purpose is to be conveyed.

The first "idea" relating to the purpose brings with it resemblances which stimulate the imagination. The interest thus awakened, backed by knowledge, provokes to further effort, in which original thought is both checked and stimulated by association and comparison, memory and imagination acting and re-acting on one another—both of them under the control of knowledge and recognised principles.

The expansion of the initial thought will resemble the circling ripples produced by the stone thrown into still water—every advance leading on to some fresh development, some more extended idea.

With these expanding thoughts enter other considerations, such as questions of material and proportion of parts to the whole. Secondary causes also claim our attention as we proceed—viz. incidental local features and surroundings, contrasts, ornamentation, colour, texture, &c. These are the means which the thought of the designer marshals and controls to give expression to such intangible qualities as purpose, character, manner, and disposition.

Architecture furnishes posterity—unconsciously, perhaps—with a picture of the prevailing manners, customs, and conditions of life. More than that, it reveals, or, it may be, betrays, the emotions and sentiments which have made each age famous or notorious.

There are thoughts formulated ages ago which, having found expression in the work of the architect, are living forces to-day.

The student should be impressed with his responsibility, and so systematise his thoughts as that his work may be a fitting and representative expression of the best thought of his day; for if he suffer his work to be infected with the haste and self-assertive methods of modern life, these are bound to betray themselves in every line and detail of his design.

There is something much more subtle and mysterious in an architectural work than a mere orderly arrangement of materials. There is life and speech in it.

If a man's character may be read in his hand, certainly it may in his handiwork. The life may be noxious, like that of a poisonous plant, or sweet and beautiful like that of a flower; or, again, it may resemble that of a noble tree—but life there is. The speech may be that of a Shelley or a Milton, or, on the other hand, of the most blatant type of "yellow" journal, but speak the architect's work must and will. It has a music, too, of its own—whether it be the music of one of Beethoven's sonatas or of the latest comic song.

When you realise this—and no one can be indeed an architect who does not realise it more or less—you will approach your work with that due sense of its dignity and importance in which alone you will be able to rise to the "height of the (proposed) argument"—if I may adapt one of Milton's phrases to my own purpose. A clear perception of the possibilities both of good and of evil that open before us when work is entrusted to us—in other words, a proper feeling of reverence for our task—is indispensable if we would accomplish something noble or beautiful, or even suited to its purpose.

If an architect is to speak truly—indeed, if he is to be coherent in his message—he must follow the recognised forms, the articulate phrasing, the grammatical order proper to his art. Thought-symbols, of whatever kind, are arranged in groups of rhythmic form like musical

phrases in relative keys. In architectural design this is effected by divisional lines and grouping of parts, such divisions being regulated on principles akin to those which govern musical progression and a harmony built up of sounds.

Again, contrasts are obtained in music by the use of loud and soft passages, and effects by gradations of sound from pianissimo and fortissimo. So architecture makes use of "strength of tone," gradations being secured in this case by the measure or greatness of projections of the different parts; also by the varying plainness or delicacy of surface and detail.

I will not carry these analogies and definitions further. What I have already said is sufficient, I hope, to convince you that there are laws and principles governing good architecture, and that as nobody expects a harmony from a haphazard arrangement of musical notes, so neither will you do good work in your profession by chance combinations or random methods.

We have now come to a point when we can indeed analyse no further, for there is always an element of mystery in the best architecture—a sort of haunting personality that, ghostlike, vanishes just when we think we have it in our grasp.

This quality of "mystery"—so pre-eminent in Oriental buildings—is one to conjure with. Veiled under symbolic forms which hide as much as they reveal, it continually draws us on and as continually eludes us. The screening of parts provokes the mind to search further and deeper for that which is beyond the immediate range of vision.

Given the element of mystery—which is perhaps the "personal equation" of art—none but the trained mind can make effective use of it. The personal element is of little avail if we have not painstakingly learnt the methods and principles of our handicraft.

One of the commonest of pitfalls for youthful designers lies in certain fanciful ideas of originality. It is easy enough to be original after a fashion. Any mere novelty will serve to astonish or startle; but if we wish to appeal to the higher faculties we must be content to let our originality find expression within the lines on which those faculties themselves work.

The great German poet Goethe relates it as perhaps the greatest lesson of his early manhood—a sort of discovery that he made for himself apparently—that if he would "find himself" and enter upon his inheritance, he must recognise and submit to limitations. Originality does not involve a subversion of all that is orderly.

In music the gamut remains the same for one man as for another; certain combinations of sounds are pleasing, certain others displeasing, and will not change their character for anybody. So the architect can neither create new elements nor alter the emotional effects of combinations of elements; his hope lies in so training his powers of perception as that he can move freely and with a sure tread amongst the almost infinite variety of paths that open before him. Then he will find plenty of scope for originality without violating the canons of art or wandering into the realms of the unpleasing.

Sir Joshua Reynolds considered that "excellence is the direct result of trained perceptions." Certainly such perceptions are the foundation; any special powers or qualities that a young architect may be conscious of will find their place and expression at a later stage. You may rest assured they will not be thrust out or obscured; they will only shine all the more brightly for having submitted to limitations.

As I have said before, the character and mind of the designer will always reveal themselves in his work. The scholarly treatment of one man will appeal to the intellect, while the grace and charm which distinguish another's work will rather sway the affections.

The highest achievement, seen only at rare intervals, lies in a combination of qualities well balanced and under absolute control.

I have endeavoured this evening to show you that there is a certain order and development of thought in the evolution of a design.

Mere knowledge will not suffice. Something more is needed than a reproduction of the past or a mere application of mathematical formulæ. If a student labour with but little thought, he may attain to a dazzling skill, but he will neither stir the heart nor convince the mind. The search for the ideal lies ever upwards and onwards by the way of severe mental discipline. Let us remember, in the words of Philip James Bailey :—

We live in deeds, not years ; in thoughts, not breaths ;
In feelings, not in figures on a dial ;
We should count time by heart-throbs. He most lives
Who thinks most, feels the noblest, acts the best.

REVIEW OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS, 1906.

By JOHN W. SIMPSON [F.].

Read before the Royal Institute of British Architects, Monday, 5th February, 1906.

MR. PRESIDENT, LADIES AND GENTLEMEN,—

THE duty laid upon me to-night of criticising the students' work is an honourable one not to be lightly undertaken. It is evident that for criticism to be useful it must be sympathetic ; unless the critic can divest himself of personal bias, and regard the work under review from the author's standpoint, he can neither appreciate how far it is successful in attaining the ideal of its creator, nor usefully indicate in what respects it may be improved. It is of no help to a student struggling with an imperfectly expressed conception of a thirteenth century church, having a tower at the crossing, to advise him to adopt a plan based upon that of a Grecian temple, and employ a Systyle Doric Order. He must be led to an intelligent comparison of his own design with those of the great Gothic masters—to consider the proportions of his tower, and the manner in which it will combine with the other features of his building. His mouldings must be criticised in relation to their positions in the work, and their effect in emphasising its horizontal and vertical lines respectively : the voids and solids, the sky lines and projections, scrutinised in relation to the general mass and grouping under various aspects.

Yet, how is it possible for an artist, who is convinced that his own conception of beauty is the true one—and without that conscientious conviction he is neither fit to criticise others nor to meddle at all with art—how is such an one, I say, to divest himself of his beliefs, and point out with honesty another road to perfection ? Balzac, you will remember, in *La Cousine Bette*, said of the sculptor Steinbock, who, bewitched by Madame Marneffe, proved recreant to his art : “ Enfin, il passa critique, comme tous les artistes qui mentent à leurs débuts.”

Well, Sir, I do not wish to accept Disraeli's definition of a critic, as one who has failed in literature and the arts, as a reason for my being here to-night ; and the paradox I have suggested above may be left to be argued by more learned casuists than myself.

THE SUB-COMMITTEES' REPORTS.

But with your permission I will, before considering the work of the students, venture a criticism upon that of the sub-committees who have reported upon the drawings submitted for the several prizes. It has been their duty to examine and discuss them in detail—a duty involving long and anxious consideration of the work of each candidate, and one which I know by experience is fulfilled with the greatest care and thoroughness. The reports made to the Council by these committees were placed in my hands for the purposes of this Paper, and I was struck by the fact that a great part of their labour is in almost every case lost to the Institute by reason of their referring only to those designs recommended to the Council for distinction. If the respective secretaries were instructed to embody in the reports some notes of their committees' views upon each design which was worthy of serious consideration, the record would be of great value for the instruction and guidance of future competitors. The information, after the editing of confidential matter, might be printed in the JOURNAL, and would be of permanent interest as the considered criticism of men selected for their special knowledge of the subjects dealt with.

I ask your pardon, Sir, for this digression, and proceed to the proper subject of my Paper.

My task is, on the whole, a pleasant one. The prizes are, except in one case, well contested, and the standard of the work submitted is distinctly above the average. It may be said, for the greater glory of the prize-winners and the encouragement of the unsuccessful, that several competitors who are, alas! in the latter category, would have been in the front rank in any average year.

THE ESSAY MEDAL.

Taking the Institute silver medals first.

The Essay Medal has brought out six competitors; but I am betraying no secret in saying that the Council is by no means satisfied with the quality of the work offered by candidates for this important prize. Whether it is that the younger men are intimidated by the prospect of competing under an age limit, which is, in my opinion, far too high, and that the older men are unable to find time to enter for it, I cannot say. Certain it is that the literary quality of the essays is by no means what it should be, or what we have a right to expect from the number of well-educated men in our junior ranks. I think myself that the small publicity which attends the gaining of this prize has much to do with it, and that the Council should take some steps to ensure the winner attaining an equal meed of fame with that of his fellow-concurrent for the Measured Drawings Medal, whose work is seen of all men. We must remember that the dearest reward to the artist is the appreciation of his work by his fellow-artists. I dare not inquire how many of us have ever read the work of any Essay prize-man!

THE MEASURED DRAWINGS MEDAL.

It is with pleasure that I turn to the measured drawings. Messrs. Coombs and Poley well deserve their triumph, and the Council had great satisfaction in awarding the medal to each. The drawings of Christchurch are an excellent and beautiful rendering of a fine subject, and the value of such a study to its delineator is incalculable. I could wish that the small scale drawings had been supplemented by full half-inch details. The Hampton Court work is shown with a clean expressive line, and the last word would almost seem to have been said as to Wren's work in this building. Mr. Lovell's drawings of Santa Maria dei Miracoli are a careful, useful, and thoroughly student-like set. It is to be regretted that he has adopted the practice of "blacking up" the full-size moulding profiles; it gives a misleading double outline, and falsifies the contours. A grey wash, or any method which gives a soft instead of a hard line to denote the undefined side of the solid, is of great assistance in appreciating its true form.

"Try" and "Sansovino" send good and conscientious renderings of St. Peter Mancroft, Norwich, and the Library at Venice respectively: excellent subjects, but the drawings not, perhaps, quite up to Silver Medal standard. Two competitors give: one the Grand Trianon and the other the Petit Trianon, but neither quite succeeds in expressing the feeling of French Renaissance work; its dainty precision suffers from any want of finish, or coarseness, in drawing. St. Stephen's, Walbrook, is presented by "Reflex," and here again I note a want of that refinement which is essential to the effective delineation of classic detail.

The Kensington Palace Orangery has attracted several students, and "Wren" shows its details, such as they are, with sympathy. Drawings of the Château de Montmirail, Sarthe, and of Castle Menzies, Aberfeldy, complete the list of works submitted.

I do not propose to pillory those competitors who have not yet arrived at such a degree of proficiency as to place them within measurable distance of this prize, by direct criticism of their work. The comparison of their drawings with those of the successful sets will teach them more in ten minutes than they would learn from a life-time of talk. But, I would ask those whom the cap fits to appropriate to themselves certain of the following remarks.

The choice of a subject is of great importance to the student who proposes to undertake its measurement, for the ultimate object of the enterprise is not the mere preparation of a set of drawings, but that intimate knowledge of and familiarity with the work which can be acquired only by a patient and detailed analysis. It is to this end that the Royal Institute encourages such studies by the offer of its medal. The opportunities which the architect-student has for dissecting the entire anatomy of an important edifice must be limited by the time at his disposal; and this time becomes, in the natural order of things, more and more difficult to obtain as the other duties of his life increase. Few of us can hope to achieve the complete description of more than one or two subjects of the first class, before other claims compel us to restrict our studies to less elaborate memoranda of their essential points. We in Great Britain who desire (and who does not?) to acquaint ourselves with the subtle beauties of classic art are under the disadvantage of living remote from the great masterpieces of Greece and Rome. We must be content to study them at second hand by means of books, or must spend time and money in travel that we may see them ourselves. But we have at our very doors a profusion of the most excellent Gothic work that the world can show, and I commend its study to you, not only as affording the finest possible technical exercise in draughtsmanship, but as tending to great flexibility and freedom in composition.

I have troubled you with this disquisition because in some cases the subjects illustrated are quite unworthy of the time spent upon them; unless, indeed, as I hope may be the case, they have been measured for discerning patrons who desire the candidates to make "alterations and additions." The mechanical delineation of surfaces of brick wall and repetitions of sash-bars can never give the power that comes by attacking and mastering intricate and beautiful detail; and though I yield to no one in my appreciation of the picturesque qualities of the Renaissance, I hold that, regarded as an aid to the study of classic architecture, it is somewhat worse than useless.

THE SOANE MEDALLION.

We now come to the "Soane Medallion," for which ten designs are submitted. It is the custom, and rightly so, to set great subjects in this competition as pegs for the students to hang their most magnificent ideas upon. Youth attacks heavy problems with a light heart, and Heaven forbid that "the Soane" should ever fall to a set of practicable working drawings. This year a most happy suggestion by Mr. Statham was adopted, and designs were invited for the realisation of the Perfect Palace described in Bacon's "*de Aedificiis*."

The result is more than satisfactory, and the winner, Mr. W. S. George, has my hearty

congratulations on his fine production. It is imagined in a properly grandiose vein, and executed in a way which indicates artistic qualities of a very high order. The "View" is especially meritorious, showing, as it does, a riotous fancy with an admirable sense of pictorial arrangement. This design is, I think, quite the most learned parody of style which we have had since my brilliant colleague on the Council, Professor Pite, startled us with his ideas as to what a West End Club should be like.

Mr. Atkinson, who takes second place, sends a capital set, the plan and detail especially well conceived; but he has somewhat lost sight of that domestic quality which differentiates the palace from the public building. The effective and careful execution of the drawing merits special mention. "Bee" has a good central Vanbrugh-like composition, marred by the restless upper parapet. The author assumes a seventeenth century latitude in spelling, but "Indigo" for "Inigo" Jones would have provoked a mild protest even at that date.

"Regal's" plan lacks imagination, and his treatment is that of an "Hôtel de Ville" rather than a mansion. "Palazzo" sends a design marked by a certain reticence and balance of composition which promises well for future efforts. His perspective, like that of many other competitors, hardly does his design justice, and his plan has another common fault in following the rigid, formal lines of a public institution. The change in his section from the Outer Court to the arcaded motive required in the Fountain Court is quite happily managed.

"Peruzzi" deserves a word for his coloured half-inch detail. "Viscount" has a good and suggestive plan, and the detail has many good points; he fails especially in his composition of mass.

"Fraximelle" has a flexible, clever plan, with a Scoto-French feeling in design. He conveys a distinct sense of size, and his grouping in perspective is good and picturesque. The drawings do not do his work justice.

THE OWEN JONES STUDENTSHIP.

Next in order comes the Owen Jones studentship, for which the competition has been very keen. Mr. Gaseoyne, who is successful in taking the £100 for foreign travel, gives admirable and delicate renderings of Italian work. His water-colour interiors show a good sense of the pictorial, though not without a certain inclination to a trick effect in lighting, which should be guarded against. Mr. Dawson sends most meritorious drawings, which I really think would have taken the studentship in any ordinary year. Mr. Davies has a remarkably beautiful set. The clean, straightforward drawing and legitimate effects of his sketches are admirable. There is to be remarked, however, a tendency to hot brown tones in his collected work, which he has emphasised by the warm brown mounts he has adopted. A white or cool grey mount would have cleared and given transparency to his colour. Mr. Nicholson, too, another prize winner, has not paid sufficient attention to his mounts, a point which it is a great mistake to neglect in a colour competition. His works, which are strong in colour, are so closely juxtaposed as to kill one another, and hardly do themselves justice at first sight. Mr. Jackson, the third of the "bracketed second" men, sends very careful and excellent colour studies of the Santuario at Soronno, and Santa Croce at Florence. They may be cited as examples of what this sort of work should be, and the author's very simple and direct technique is worthy of notice.

THE PUGIN STUDENTSHIP.

The "Pugin" drawings next claim our attention, and are in no way below the general standard of excellence. Mr. Drysdale takes the silver medal and £40 prize with delightful

and effective sketches well worth study by other competitors. His detail is carefully and conscientiously given without unnecessary repetition; and the renderings of Bishop Bridport's tomb and the John Draper chantry screen at Christchurch are quite masterly. His combination of brown ink writing with pencil and colour drawing is very pleasant and characteristic; he has done a great deal of good work, and thoroughly earned the prize he has gained. Mr. Jordan Green comes a good second with excellent unaffected measured drawings of Abbeydore. Other candidates well to the front are: Mr. Sinister, with fine clean pencil studies of Shrewsbury, and other subjects; Mr. George, the winner of the "Soane," who sends a quantity of really useful sketches, including a study of one of the *trumeaux* of Amiens Cathedral west porch; Mr. Morison and Mr. MacLucas, who have each a mass of good conscientious work collected from many sources. Mr. Milne sends capital water-colour sketches and pen-and-ink notes, but wants rather more measured work. The remainder are all quite good, but their sketches though invariably studious are a little thin in quality and in some cases insufficient in quantity. Nevertheless all the twelve competitors are strong enough to have taken a "lot of beating."

THE GODWIN BURSARY.

The Godwin Bursary is next on my list, very worthily won by Mr. Inigo Triggs. I hope I may not be indiscreet in saying that the only doubt in the minds of the Council was whether the proposal of the author to study the "Laying out of Public Squares and Open Spaces" fell strictly within the terms of the Trust deed. Their decision in the affirmative I awaited with trepidation, and learned with relief, for I fear the suggestion I made in my Paper on this subject last year may have influenced the author's choice. I mention this that students may be careful how they adopt any advice of mine in future. Mr. Corbett was placed second out of five concurrents.

THE TITE PRIZE.

For the "Tite" certificate and £40, there are no fewer than twenty-one competitors, the subject set being "An open-air swimming bath." Mr. Horanell is placed first with a really fine conception. His plan is thoroughly artistic, and the design is naturally and unaffectedly that of an enclosed space and not of a covered building. The pencil perspective is coarse, and does not adequately express the enclosing of the bath, and the half-inch detail is unfinished. The merits of the design are so great that it is deservedly placed first; but I would warn future competitors that this success is not to be taken as a precedent for unstudent-like finish in their work.

Mr. Pearson takes a Medal of Merit for a vigorous and good attempt to deal with a difficult elliptic motive. His outer colonnade, though effective, requires more thoughtful planning to justify it, and the entrance blocks occur too abruptly, and do not quite wed with the columnar treatment. The drawings are very admirable. Mr. Wright, who receives an "honourable mention," has a design marked by refinement of detail. His treatment of the projecting staircase blocks shows want of consideration of their side returns, the projections are not in quite good proportion, and the perspective, as is so often the case, rather reveals defects than unsuspected merits. These neglected returns in a façade form fatal traps to those who design in plane geometry instead of cube masses.

"Dolphin No. 2" sends an able and essentially "open-air" design, with a good and effective washed view. His proportions are good, but the detail, which is poor and weakly drawn, must, I imagine, have destroyed his chances with the assessors. Many of the competitors have failed to express this "open-air" motive, and treat their baths as ordinary

buildings with the roof removed. Viewed from outside they might be casinos, town halls, or any other public buildings.

"Fiat Lux" sends end elevations which are absolutely ecclesiastical in character, though his treatment of the bath with an open colonnade to the garden is quite excellent. It is a pity he did not develop this suggestion further. "Pleiades" has an ambitious but hardly completed design with many good points, not the least of which is that he has aimed high. "Bo'sun" has a good idea in the terrace roofing to his colonnade, but his detail is poor, and the intercolumniations unpleasant, the voids being too square in form. "Hodden-Gray" sends a design well drawn but hardly student-like enough in detail. The masonry of the parapets is too heavy, and the central entrance very unsatisfactory as regards the panel over the arch.

"Cui Bono" has a vigorously drawn set showing a really fine sense of massing. The interior is, however, rather "thin" in design, and hardly carries on the solidity of the exterior. The author has destroyed the scale of his perspective by filling in the circular openings with black, which forces them into undue prominence, and is fatal to all suggestion of aerial perspective. I mention this design for its merits, but it is clearly disqualified as not complying with the conditions of the competition. "Seed," "1905," and "Aqua," with a Palladian design of merit, all deserve mention. "Aristobulus" fails in the treatment of his internal angles and rounded seats. "Ajax" shows some good composition in his section, but the whole design is slovenly in execution. "E pluribus unum," "Michelange," and "Ultra" show some promise; the first fails in scale, the second is lacking in imaginative quality, and the flat domes of the third require more apparent solid support.

THE ARTHUR CATES PRIZE.

The Arthur Cates Prize of Forty Guineas has produced only one competitor, and Mr. Markham, to whom it falls, has thoroughly earned it by honest and good work. It is curious that this prize has not attracted more attention, as a great part of the work required is already done by every candidate who passes the Final Examination at the first attempt.

GRISSELL MEDAL.

The Grissell Gold Medal and Ten Guineas is given this year for the best design for a Stone Skew Bridge. The prize is awarded to Mr. Nott, for an excellent and simple scheme thoroughly well worked out. His design for the pylon piers would be better if the niches and brackets in the lower portion were omitted; the upper parts are too thin in proportion, and rather slab-like when viewed from the side.

Although this prize is primarily one for construction rather than for beauty of design, it must not be forgotten that construction which results in unlovely form is architecturally bad.

"Bydand" gives an elaborate Italian design with extensive abutments. The remaining designs show much meritorious, though, I fear, misdirected work.

Ladies and Gentlemen, here is the younger generation knocking at the door, as Ibsen says; and we hear their vigorous strokes for the prizes of the year without any of Halvard Solness' misgivings. The better the students' work the better is the prospect for British architecture; and we welcome all such as are worthy within our portals. I offer my congratulations to the Royal Institute upon its students, and to the students upon their fine performances, commending to them Ben Jonson's description of "The True Artificer":—

"He knows it is his only art, so to carry it as none but artificers perceive it."

VOTE OF THANKS.

MR. EDMUND GOSSE, LL.D.: Gentlemen of the Council, Ladies and Gentlemen,—Your Council have been good enough to desire that I should to-night propose a vote of thanks to your illustrious President. I do so because I habitually obey orders; but I have very great doubts indeed, or rather no doubt at all, as to the propriety of their choice. The whole world is divided as regards architecture, it seems to me, into three very unequal divisions. There is the enormous majority of persons who know nothing about architecture at all, and who have not the smallest desire to know. Then there is the small and unimportant division who have a great love and taste for architecture, but have no practical knowledge of it: to that singularly unillustrious body I belong. Then there is a third group, consisting of the Fellows, Associates, and Students of this Institute, who know everything about architecture that can be known! I came to the meeting this evening in a very humble state, but I am not quite so blank as not to know that the very function of this Institute is to insist on the relation of architecture to the other arts, and to insist that it is itself one of the fine arts. Your President all through his career, if I may venture to say so, has not merely been a brilliant observer of the rules of your own particular art of architecture, but he has been singularly happy and singularly sympathetic in linking with those interests the interests of the kindred arts, and particularly of the art which comes nearest to architecture—the noble art of sculpture. It was therefore with particular emotion that I listened to his very ingenious and striking Address to-night, because I felt that if there is a man who is fitted to raise our ideas to a high level on such a subject as this it is Mr. Belcher. In listening to that piece of—he will not allow me to say psychology, and perhaps he is right, for I never know exactly what psychology means, but certainly it was a very metaphysical Address—in listening to that brilliant piece of metaphysics, I thought that it was near the end that the keynote was sounded: in the words which directed us to realise that order and development of thought, in the evolution of a design, form the central ambition which an architectural student should hold before him. I took the whole Paper to inculcate this lesson, that the student should always aim at purity, dignity, and freshness of design, without giving way to the incongruous and the fantastic. Do not you think that we live in an age when the incongruous and the fantastic are very popular? And is it not really a great

blessing for architecture that it cannot penetrate into those realms of incongruity and fantasy into which painting and even sculpture sometimes allow themselves to trespass? I do not know whether you remember a curious phrase of Vasari, where he is speaking of the great Roman architect Bastiano Aristotele. He says that he, living in an age when the Renaissance was suddenly declining into incongruity and fantasy in painting, was trained to be a painter, but that he soon felt his nature to lack that fertility of invention which was needed by the painters of his time, and therefore turned to the soberer and more disciplined art of architecture. Well, it seems to me that there is an enormous work to be done in quickening the architectural conscience of the public to-day. When the other day I received the invitation of your Council, I was staying in a little town on the south coast of Devonshire. There is a good deal of work that the Institute might do in that little town, which I will not be so libellous as to name, because that little town, if you will pardon me a moment's digression, is almost entirely in the hands of one proprietor, and he an absentee proprietor. That little town is a collection of dull, stupid little houses, all built exactly like one another, all with the same deathly convention about them, all of them looking as ugly outside as they probably are uncomfortable inside. And I was interested in this because what remains of the little old town, as it existed more than a hundred years old, is charming: little Adamay terraces built in exquisite taste. I was told that the modern villas were all built by one gentleman—I am on the borderland of libel, but I look to be protected by the Institute—and that this gentleman was the surveyor-architect—for so he was called—of the place. And he had only one set of designs! It does not seem to me that that is enough, because it could not have been a very good set of designs even when it was quite new. Your President, whose mind moves from the heights to the depths, spoke of there being two kinds of life in architecture. I was struck with that remark; he says it may be noxious, like that of a poisonous plant—or of the latest comic song! But I should like to point out to your President, and I should like in my ignorance to ask you as an Institute, whether there is not a third condition, and whether it may not be even worse than having noxious life to have no life at all. It seems to me that much of the architecture we see in this country is of an entirely dead order, dismal and dead and fit only to be blown up and buried! This

Institute, and your President at its head, fight a very difficult and dangerous fight against this popular degradation of design. And there is no end of work to be done, not merely in building good buildings, but in raising and developing public taste. But the present mediocrity is at all events fought, fought through thick and thin, fought upon all occasions, by the Institute of British Architects; and I am sure that we all owe a very great debt of thanks to the architects of this Institute for continuing against all sorts of difficulties, all sorts of discouragements, all want of appreciation, to draw public taste rigorously and persistently to the claims of architecture as one of the Fine Arts. Amongst those who do that, none does it, as I think, if I may say so in my ignorance, more brilliantly and with more success or with more persistence than your illustrious President whom we have very much enjoyed hearing to-night.

PROFESSOR F. M. SIMPSON [P.]: Mr. President, Ladies and Gentlemen,—I greatly appreciate the honour of being asked to second this vote of thanks; and it is an additional honour and pleasure when one has listened to an Address so thoughtful and thought-creating as the one delivered to-night by the President of the Institute. Mr. Belcher in the first paragraph strikes the keynote that runs all through the Address—the keynote that without hard study and adequate thought no student can hope for success. He further emphasises the fact that architecture speaks, and that according to the way in which a man's work speaks, so can one determine the character of the man. Let us think what that latter means. It is not only the good work that a man does that lives, the bad work survives as well, and very often survives much more than the good work itself. What, for instance, gives the best idea of Cockerell's character? Is it the accounts of his life; is it the portrait that hangs to the left of the President on the walls of this room? Neither gives you anything like the idea of the man himself that his work does, because in it you can see—I am merely taking Cockerell as an illustration—his refinement, his scholarly skill, and, above all, what is the most important to us to-night—for it is on this point that the President dwelt—in Cockerell's buildings you can see the enormous amount of work that he did in the shape of study before he achieved success. The President has ably sketched the evolution of a design; he has shown the game of battledore and shuttlecock that goes on in a man's mind between his imagination and his knowledge. These two things are both necessary: one is of little or no good without

the other. Imagination of course is a gift, and knowledge is the result of grind. Gifts no doubt are what we appreciate most, but it is the mixing of the two things that makes for success. It is not merely enough for a man to possess imagination—he has to do the work in order to train that imagination, so that it shall be directed into proper channels, and not run riot as it otherwise might. The President's remark, "It is easy to be original after a fashion," is perfectly true. In an old play there is a character, a would-be wit, who says, speaking of a friend: "His want of knowledge gives him the more opportunities to show his natural parts." Now natural parts are very crude things as a rule, and it is to the educating, to the polishing, of those natural parts that a man's life practically has to be devoted if the result is to be success. A student is to be congratulated who possesses that gift of imagination, because it is the one thing that he cannot possibly acquire if he does not possess it in the first instance. I think all of us in this room, and especially the young members, should be extremely obliged to the President for laying such strong emphasis on the fact that two things are necessary: first of all, the imagination, in order to conceive, to attain the idea; and secondly, the educated taste, which will enable the student, as architect, to work it out thoroughly.

THE PRESIDENT: Ladies and Gentlemen,—I thank you very heartily for so patiently listening to me this evening, and for your cordial acceptance of my Address. I think I am very fortunate in having been so well supported too by my friends. Mr. Edmund Gosse, who as a profound thinker and a great master in his own art has supported my views, I think, has assisted us in our consideration of the position of architecture at the present time as regards its life, whether in its two-fold or three-fold form. For my own part, I regard as dead architecture the mere reproductions of the past—the mere copying, without any thought at all, of something which has been already done before. I am grateful also to my friend Professor Simpson for supporting my remarks as to the need of thought in the study and work of architecture. You may have imagined that I was laying too much stress upon buildings in the air, upon thoughts in the air, and that there is not much 5 per cent. to be got out of castles in the air. At the same time it is absolutely necessary that we should give adequate thought in order that these imaginations of ours may be materialised, and that we may have some ideal of good architecture.



9, CONDUIT STREET, LONDON, W., 10th Feb. 1906.

CHRONICLE.

The Prizes and Studentships 1906.

The Annual Exhibition of the works submitted in competition for the Prizes and Studentships in the gift of the Institute opened at the Gallery of the Alpine Club on Tuesday the 29th ult., and closed on Saturday the 3rd inst. Over 1,100 persons visited the Exhibition. The number of competitors, including those who entered for the Essay Prize, was eighty-seven, as against eighty last year, and seventy-three the previous year; number of strainers 350, as against 302 last year. The work resulting from the tours of past years' Travelling Students—Mr. Frederic J. Horth (Soane Medallist 1904), who studied in Italy; Mr. Edward Garratt (Pugin Student 1905), who studied in Oxfordshire, Somerset, Dorset, Gloucestershire, Wiltshire, and Hampshire; and Mr. R. Atkinson (Tite Prizeman 1905), who studied in Italy—was displayed in the Meeting-room on the occasion of the Presentation of Prizes on the 5th inst.

The Prize Drawings for Exhibition in the Provinces.

The following selection from the premiated designs and drawings in the Institute Competitions for Prizes and Studentships 1905-6, together with some studies submitted by candidates for the Intermediate Examination, will be exhibited in various cities of the United Kingdom during the next few months, under the auspices of the Allied Societies:—

The Royal Institute Silver Medals (Measured Drawings).—Christchurch Priory (3 strainers), by Mr. G. J. Coombs (under motto "Sigillū Ecclesiæ Trinitatis d. Totham") and Hampton Court Palace (3 strainers), by Mr. A. E. Poley (under motto "A.D. 1690"), awarded Medal and Ten Guineas respectively; Santa Maria dei Miracoli (2 strainers), by Mr. P. W. Lovell (under motto "San Marco"), awarded Certificate of Hon. Mention.

The Soane Medallion.—Designs for a Realisation of the Ideal Mansion described in Bacon's Essay

"Of Building" (4 strainers), by Mr. W. S. George (under motto "John Thorpe"), awarded the Medallion and £100; 3 strainers by Mr. R. Atkinson (under motto "White Lion"), awarded a Certificate of Hon. Mention and Ten Guineas.

The Owen Jones Studentship.—Drawings by Mr. C. Gascoyne (3 strainers), awarded the Certificate and £100; drawings by Mr. W. J. Davies (1 strainer); Mr. A. D. Nicholson (1 strainer); and Mr. A. R. H. Jackson (1 strainer), awarded the sum of Five Guineas respectively.

The Pugin Studentship.—Drawings by Mr. G. Drysdale (3 strainers), awarded the Medal and £40; drawings by Mr. J. Green (2 strainers), awarded Certificate of Hon. Mention.

The Tite Prize.—Design for an Open Air Swimming Bath (3 strainers), by Mr. A. G. Horsnell (under motto "Dolphin"), awarded the Certificate and £30; 2 strainers by Mr. C. B. Pearson (under motto "Ellipse"), awarded a Medal of Merit.

The Grissell Gold Medal.—Design for a Stone Skew Bridge; 3 strainers by Mr. G. Nott (under motto "Utile Dulci"), awarded the Medal and Ten Guineas.

The Arthur Cates Prize.—Drawings by Mr. J. H. Markham (2 strainers), awarded the Prize of Forty Guineas.

A selection of Testimonies of Study submitted for the Intermediate Examination.

Seventh International Congress of Architects, London, 1906.

In connection with the Congress in July next, to be held at the Grafton Galleries, it is proposed to hold an Exhibition of Oil Paintings and Water-colour Drawings, by known painters, which treat of architectural subjects. It is hoped that the Executive Committee will receive all possible help in making such an exhibition of purely British work as complete and representative as possible. Members who are acquainted with the whereabouts of such paintings and water-colour drawings in private collections are requested to be so kind as to communicate with Mr. Ralph Straus, Secretary of the Exhibition Sub-Committee, at the Offices of the R.I.B.A., 9 Conduit Street, W. The Executive Committee are also organising a Chronological Exhibition of English Architecture from the Norman Conquest (1066) to the death of Sir Charles Barry; and an Exhibition of English Furniture and Silver Work.

His Majesty the King has graciously consented to the members of the Congress visiting Windsor Castle and the Gardens of Buckingham Palace during the Congress week.

By the kind permission of the Corporation of the City of London the Inaugural Meeting of the Congress will be held at the Guildhall on Monday, 16th July, at 3 p.m.

The Testimonial to Mr. Phenè Spiers.

The executive committee of this testimonial, having now closed their accounts, state that after paying all expenses there is a balance to the credit of the fund of £79, and that only 124 copies of *Architecture, East and West*, remained unsold at Christmas last. The committee have handed over the balance of £79 to Mr. Spiers to deal with in any manner he thinks fit, and have instructed Mr. Batsford to transfer the remainder of the edition of the book to Mr. Spiers' account. Mr. Spiers intends to devote the sum of money which has been handed over to him to some useful architectural purpose, which will be announced later. Particulars of the testimonial are given in the JOURNAL for 11th March 1905.

The late John Pollard Seddon [F.].

Mr. John P. Seddon, who passed away on the 1st inst., at the age of seventy-eight years, had had a long and at one time a very intimate and active connection with the Institute. Elected Associate in 1852, he passed to the Fellowship in 1860, and served for some years on the Council, for five years (1862-1867) filling the post of Hon. Secretary. He was the author of papers on a variety of subjects read at General Meetings and published in the Institute TRANSACTIONS, including "The Dark Ages of Architecture" (1860-61), "Sundry Notes upon some Miscellaneous Subjects" (1863-64), "St. Nicholas' Church, Great Yarmouth" (1864-65), "On the Photographs taken for the Architectural Photographic Society in the Year 1867" (1867-68), "Some Recently Discovered Examples of Ecclesiastical Decoration" (1869-70), "On the University College of Wales and other Buildings at and near Aberystwith" (1870-71), "On the Shoring &c. of Grosmont Church Tower" (1872-73), "The Principles of Chromatic Decoration" (Conference 1871), and "The Polychromatic Decoration of Various Buildings" (1879-80).

Mr. Alexander Graham, F.S.A., in announcing the decease at the meeting last Monday, said that Mr. Seddon had left behind him among his professional brethren a very pleasant memory, and his loss would be keenly felt. He was one of those who followed strictly in the old Pugin school, and a diligent student of mediæval architecture. Mr. Graham went on to say that he should like the opinion of members who were better acquainted with their late colleague's work than he was, but he was sure there was only one feeling amongst them all—viz. that of deepest regret at the removal from their ranks of one who had fought the battle of professional and artistic life so nobly and with such distinguished success. Mr. Graham concluded by proposing that a letter be sent to the widow and family sympathising with them in their great loss, and expressing the

appreciation of members for the work and merits of their deceased colleague.

Mr. Seddon's funeral took place on the 5th inst., the service at the Church of St. Mary-le-Park being attended by a large congregation and a full choir. The Institute was officially represented by Messrs. W. D. Caröe and G. H. Fellowes Prynne and a wreath was sent on behalf of members. Among others present were Mr. Maurice B. Adams, as representative of the now extinct Architectural Museum with which Mr. Seddon was at one time identified, and Mr. D. G. Driver, representing the Architectural Association.

A notice of Mr. Seddon's professional career will appear in a future issue.

Architectural Censorship.

In a Paper on "Architectural Censorship" read recently before the Architectural Craftsmen's Society, Glasgow, Mr. J. Campbell Reid showed by lantern views numerous architectural mistakes, due to the want of proper supervision of architectural schemes, with reference to the relation of new buildings to their surroundings, which were often of real architectural or historical value, and were thrown out of scale by the new structures. He advocated the appointment of small committees for each district of large towns, who would form an Architectural Court, before whom all plans for proposed buildings would be submitted after having been sanctioned by the Dean of Guild Court. These committees would refer any schemes opposed to architectural principles to the censor, who would be an architect or artist of repute appointed by the Government, and whose decision would be final. Mr. Reid also advocated the laying out of new streets by architects, who would introduce more varied lines than those laid down by engineers, and thus relieve the monotony of many of our thoroughfares.

Carpenters' Hall Lectures.

The Carpenters' Company is arranging for the delivery of the following course of lectures at Carpenters' Hall, London Wall:—Feb. 15th, "Some Points of Architectural Interest in our Parish Churches," by Rev. Walter Marshall, M.A., F.S.A. Feb. 22nd, "Greek Temples and Ruins," by Mr. A. Evan Bernays, M.A. Mar. 1st, "The Relation of Architecture to History," by the Rt. Honble. James Bryce, M.P., F.R.S. Mar. 8th, "Steam Turbines—Land and Marine," by Mr. G. Gerald Stoney, B.E., M.Inst.C.E., &c. Mar. 15th, "The Yeoman's House in England," by Mr. E. Guy Dawber [F.] Mar. 22nd, "The Neglected Resources of our British Woodlands," by the Rt. Hon. Sir Herbert Maxwell, Bart., M.P., F.R.S. The lectures commence at 8 p.m., and will be illustrated by lantern photographs and in other ways. Admission is free by ticket, to be obtained from the Clerk to the Company.

RECORDS OF ROMAN REMAINS.

Commendatore Boni's Appeal.

Comm. Giacomo Boni, the able director of the excavations in the Roman Forum, has issued a pamphlet embodying, in the form of a lecture and an appeal, a scheme which he proposes for gathering together topographical records of the widely extended Roman remains existing in different countries, to be deposited in a central museum to be formed contiguous to the Forum at Rome.

The appeal is for information in the shape of photographs, accompanied by topographical and other descriptions, which would be kept classified for reference and study in this museum. He prefaces the appeal by some very pointed and sensible observations on the proper *versus* the improper treatment of historic buildings and of historic "finds" in general which we in this country should do well to lay to heart.

The occasion of the lecture was his return from a journey across the Alps, undertaken in the cause of the research indicated. He says:—

"I had cause for satisfaction in realising by comparison the advance made in Italy in reverence for the authenticity of ancient work. Unfortunately among other nations, who nevertheless possess a wide and profound knowledge of history and of art, the most deplorable methods of restoration still persist, which are bound to destroy all the value of works of art—either as documents of civilisation, or as entitling to a national claim to noble rank—and to turn them into false and repugnant objects by reason of discordant repairs. This destruction would immediately cease if the school which has artistic culture became larger and more important. . . . There is very little in the methods of archaeological research in other countries to give Italy any cause for envy. In these other countries excavations are directed not infrequently by philologists, or amateurs having only literary culture. Such direction must of necessity destroy much which, to be appreciated at its proper value, needs more extended training and knowledge. . . . Considering the paucity of such records, these nations would appear to have sufficient inducement to protect them. Owing, however, to the exuberant richness of its historic artistic remains, Italy more than any other has become a prey to the spoiler, and more than any other nation appears to be incapable of curbing the work of devastation.

"That some monuments of art of supreme importance still remain to us, and that the most sumptuous buildings cannot be pulled down or broken into fragments and made over to the foreigner, is not sufficient to procure us comfort. For a large part of that which formed the basis of the existence of the lordly summits of art and mounted up to them by steps, and through which the lowly aspirations of the Italian mind found

utterance, has been carried away from the place where the ancient artificer had dedicated his work to the tutelary deities of our cities.

"It was not enough to uproot the flowers from the soil of Italy; its buried strata were ransacked, as if it were an enemy's country, to extract therefrom whatever held out promise of gain. . . . Numerous examples of the most exquisite archaic art, taken in our own time from Italian sepulchres in Sabina, Piceno, and Umbria, are exhibited in foreign collections."

Comm. Boni also points out the loss occasioned by the severance of objects from their environment, such as the contents of cemeteries, skeletons, and funeral ornaments.

Referring to his journey and its object, he says:

"During my journey I made notes as I travelled of everything that bore in any way on the excavations in the Forum, and I should like to have most of these notes published in a generally accessible form. It seems to me that the heart of the *Urbs*, the centre-point of diffusion of the whole Latin civilisation, should be, as it is in fact becoming, the centre of the studies connected therewith. It is a vast undertaking, but the wherewithal has been forthcoming for enterprises of not less magnitude. The monuments of Roman antiquity are dispersed over a very vast region, and scattered fragments lie beyond the limits of the Empire, but the interest in them is so widespread that I do not despair of efficient assistance.

"The publications I suggest will include critical editions of the classics, the treatises on history, mythology, numismatics, topography, and Roman art. My few contributions will form the first instalment, and to these (if I do not deceive myself) other publications will be added, acquired by purchase or by other means:

"Atlases and wall-maps to illustrate the extent and the changes of the 'lines' (ancient boundaries of the Empire), every road, and the site of each colony.

"Copies of Roman coins, and notably of medals representing the inauguration or the dedication of the forensic buildings.

"Casts of gems and *pietre-dure* with incised emblems, mottoes, mythological figures, or well-known portraits.

"Photographs of all Roman monuments and architectural remains (*ruderi*), of all sculptured or pictorial relics in Europe, North Africa, or Asia Minor.

"Facsimiles of architectural designs and reliefs of the fifteenth and sixteenth centuries, and reproductions of Renaissance paintings, engravings, and etchings.

"Photographs and engravings of any work of art inspired by Roman influence, and especially by forensic intercourse, until the fall of the Empire.

"Some of these collections do not require very

burdensome research. Others, of higher importance, will, I trust, be provided through the help of lovers of Roman antiquity. And as I should consider myself unworthy to make this request of others if I did not myself offer some contribution, I propose to arrange conferences and lectures in those countries which possess monuments and Roman colonies. I hope this may awaken in every mind a sense of emulation.

"The works which belong to Greco-Italian thought appear to us at the present time much less remote than those which resulted from mediæval endeavour. Virgil was the poet's guide, and the Renaissance was only an aspiration towards the antique world, where the social problems of to-day were not unknown; and although Roman biographical history is in the habit of paying most attention to the strange peculiarities of some foreign imperial ruler, a surer history is sculptured on the scattered monuments and stamped on each coin, which tells us of the wisdom and knowledge of the ancients and of the ideal State to which the Roman legionary, though far from his birthplace and hearth, nevertheless preserved his loyalty."

To make a beginning towards the realisation of these proposals Comm. Boni issues the following appeal:—

"To the Lovers of Roman Civilisation."

"To the Roman Forum, the centre of all public life in ancient Rome, come the admirers of the civic life of which it was the centre.

"The stratigraphic material now collected in the museum of the Forum, the drawings and models, the engravings and publications here at hand for every inquirer, will give stimulus to fresh research and to comparative study.

"Great facility would be given to such studies by photographs of the important monuments and architectural structures, such as roads, sepulchres, bridges, aqueducts, cisterns, walls, gates, sacraria, temples, arches, theatres, amphitheatres, circuses, baths, &c., which are documentary evidence of the extent and power of the Empire, and reveal the influences which Roman life either exercised or was subjected to in the more distant colonies.

"To start such a comprehensive collection I ask assistance from every lover of the Roman 'civiltà,' from the heads of departments of culture and fine arts, from the officials and members of historic institutes; of academies and societies, of archaeological museums; from the students of classical antiquity, and from all those who will in the future be visitors to the museum, and can offer photographs or lend negatives or drawings of Roman buildings or ruins.

"I should be grateful for even imperfect and small reproductions from the African or Oriental provinces where exploration is still incomplete.

On the reverse side should be written an account of the building and locality.

"A volume will be kept near the exhibits to record the names of generous donors who, inspired by their reverence for Rome, have contributed towards this groundwork for a comprehensive roll of Roman monuments."

Too much reliance should not be placed upon mere photographic reproductions of buildings unless supplemented by anthropological and ethnographic details.

Comm. Boni wants also photographs of the utensils of domestic life of peasant peoples of to-day, and of costumes. "Little in this direction has been done by Italy, and if the camera does not quickly come to the rescue every trace of the costumes which differentiated the races will disappear, these often dating back to the very earliest beginnings of Italy." He further announces the preparation of catalogues of monuments intended as a guide in forming this Photograph Collection.

One heartily wishes that Comm. Boni's efforts to obtain records will be successful, and also that he may exert his influence against the unintelligent tampering with our old buildings either in the nature of wilful and unnecessary destruction or the still sadder destruction and falsification which takes place in the name of repair. Italy may be said to lead the van in the wise care of her classical remains. It is to be feared, however, that, whether wiser or less wise than other nations, with regard to Mediæval and Renaissance buildings which are still in use there is not infrequently more valour than discretion—though we have reason to believe that Comm. Boni is on the side of discretion, as is certainly to be inferred from his own words.

JOHN HEBB.

REVIEWS.

CENTRAL ASIAN ART.

Old and New Architecture in Khiva, Bokhara, and Turkistan. By O. Olufsen. 4^o Copenhagen, 1905. Price 15s. net. (Thomas Pofts, 17 Old Queen Street, Westminster, S.W.).

The title of this book promises so much, that one hailed it as probably the first step towards the solution of problems of remote antiquity which have puzzled the student of Eastern architecture. The vast territories of Central Asia seem to have been at some remote period of history the world's cradle of art, and the exploration of one of its most active centres must, it would be thought, add materially to our present knowledge of the subject. In point of fact, however, this publication, beyond showing more clearly the Iranian origin of the ceramic surface work of Mooltan, Lahore, Delhi, and other places in India, adds little to what is already known. The oldest building now above ground in the regions dealt with is contemporary with St. Mark's, Venice, so that the word "old" means from the eleventh century upwards. The book is well got up, the photographs and drawings carefully chosen and intelligently described, although commencing with a description of the most recent work is unusual, and, in a more serious effort, might lead to confusion.

The pitiless followers of the Prophet left not a vestige of what they found; the country is swept as clean of archaeological remains as a passage of locusts sweeps a country of green meat! In like manner, in Gujerat, Kuttiawar, and other places, the invaders also killed and destroyed; but in those regions architecture was a lithic art, and it remains to the credit of the conquerors that they recognised the beauty of much they had defaced as well as the artistic aptitude of the builders, so they employed the latter to construct mosques and tombs out of mounds of the most magnificent debris that probably ever existed; in this way the materials of the older works were preserved. In Ahmedabad, Mohanmedan columns can be seen composed of two or even three Hindoo or Jain columns placed one above the other, and we know that nearly all the material used in the construction of this city was brought from Patan, the ancient Hindoo capital of Gujerat. In Central Asia, on the other hand, there is no stone; all buildings are constructed of sun-dried earth, and as long as the exterior of such work is protected from wet, it is probably as permanent as buildings constructed of harder materials.

The only structures now existing consist of mosques, tombs, *madrissas*, and palaces; they are nearly all based on the one idea of a courtyard surrounded by apartments, and all are ornamented either with plaster enrichments or with glazed

tiles applied to the surface. It is interesting to note in this connection how, when this art passed into India, it was modified by the inlaid marble-work. In Mooltan and Lahore, where the materials are similar to those of Central Asia, numerous examples exist, and, as far south-east as Gwalior and Dattia, glazed tile-work was made use of as an exterior decoration.

Mr. Olufsen points out that the ceramic surfaces are treated in two different ways. In the one mode, probably the most ancient, the patterns are formed of tesserae about one inch square fitted in like mosaics; in the other, the patterns are painted on tiles about a centimetre square, like much of the modern tile-work. In Lahore a third mode was practised, probably in imitation of the marble inlays of Delhi and Agra. The leaves and flowers of the floral work were shaped before being fired, and then laid whole or in two or three pieces on a ground of toned white (kaolin quartz with a touch of cobalt oxide) or yellow (antimony). It seems possible that some of the soft-lead blue-green glazes (oxide of copper) were fired on the work itself. Soft-lead glazes can be fired under muffles formed of two or three layers of bratties (dried cow-dung) over a metal frame like an inverted clothes-basket. Whether such a process ever existed it is difficult now to determine, but pieces of vitrified green, about the thickness of an egg-shell, can still be seen adhering to a mass of apparently quartz plaster without joints of any kind. If in a country where sunshine is the normal state of the weather a building wholly covered with faience has a beautiful appearance, there seems to be no reason why buildings so decorated should not look even better in our dingy and smoky towns. Faience, used as faience, is certainly more truthful than when it is made to imitate stone. The great difficulty seems to be in the selection of colours. If the tones are too high the building has an undecided, washed-out appearance; if too low the contrasts are generally too violent. Nearly all the attempts at faience exteriors, both in England and on the Continent, fail from one or other of these reasons.

The painted stucco made use of when buildings have to be finished cheaply is not to be commended. Many of the patterns are intricate and beautiful, but this style of work, if it is like similar examples in India, is coarse and bizarre. The woodwork is in every way excellent, most of the doors are richly ornamented with those intricate "all-over" patterns of Arabian art which testify so eloquently to the patience and industry of the Eastern workman.

It may be hoped, now that the enterprise of Russia has opened out these vast territories to the possibility of scientific exploration, that excavations will be made along the great central trade lines. Fergusson was the first to call attention to the great similarity of the arts of China

and Egypt, while Indian traditions invariably point to China as the great art centre of ancient civilisation. At present such conjectures are merely speculative; but it is not impossible that while we are moaning over the loss of the world's art cradle in the buried island of Atlantis, that cradle may never have been lost, but is here at hand in that most wonderful of all countries, China.

R. F. CHISHOLM.

GARDEN CITIES.

Garden Cities in Theory and Practice: being an Amplification of a Paper on "The Potentialities of Applied Science in a Garden City," read before Section F of the British Association. By A. R. Sennett. 2 vols. 8s. Lond. 1905. [Hemrose & Sons, Ltd., 4 Snow Hill, E.C.]

Garden Cities in Theory and Practice is a work consisting of two large volumes. A lengthy introduction deals with the moral and economic justification of the "Garden City" movement, and incidentally touches upon some other interesting social problems. A good deal of engineering information is included in the work that will prove useful to architects. Due attention is also given to the architecture and laying out of garden cities. The author, who very fully discusses the general disposition of one of these cities, is in favour of the adoption of a rectilinear plan. As he justly points out, the circular plan increases the difficulties of development, and, by restricting the range of vision in the thoroughfares to the length of a chord, makes extensive vistas impossible. The author has something new to say on the plotting out of land, and recommends hexagonal plots as being more advantageous than rectangular sites. In the industrial village the author plans several of these hexagonal plots between two roads. This method of plotting, however, would probably involve difficulties with local building authorities. Flat concrete roofs are generally recommended. It is pointed out that such roofs enable a more even temperature to be maintained within the building, and are a boon to the occupants by permitting of a roof garden. Much is said in favour of kitchens on the roof on the score of good light and ventilation. The service to dining-room would of course be facilitated by a lift, which could also be used for hoisting goods left by the tradesmen. It should be remembered, however, that in small houses all the servants occupy the kitchen, and where this is on the roof the duty of answering visitors at the front door would be rather laborious. Amongst the vast amount of general information given in the work are particulars of Port Sunlight and Bourneville. Many illustrations of cottages in these villages, and of cottages in some of the superior continental villages, are included. The author discusses in detail most of the things having any connection with garden cities: municipal buildings,

allotment gardens, crèches, locomotion, physical culture, recreation, education, all coming in for a share of his attention.

SYDNEY W. CRANFIELD.

ALLIED SOCIETIES.

LEEDS AND YORKSHIRE SOCIETY.

At the rooms of the above Society, on Thursday, the 25th January, Mr. A. Needham Wilson read a Paper on the "Architecture of Southern France," Mr. H. S. Chorley in the chair. The lecturer said: "I propose to deal with the influences which governed the production and development of architecture after the withdrawal of Roman domination in the south of France, and particularly in Provence. A student visiting the south of France for the first time cannot fail to be struck by the examples of Romanesque architecture more than by anything else, and in Provence he will be bewildered by the impression that no intermediate styles seem to bridge the gap between the degenerate Romanesque and the late Gothic, or even the Renaissance. To deal with the subject as a whole would hardly come within the scope of a single Paper, and with your permission I will deal in particular with the Romanesque in Provence. May I be pardoned if I dip briefly into history? But a rough outline is necessary on which to base the other aspects of the subject." The lecturer then dealt with the occupation of Provence by the Romans, the influence of the Franks, the rapid advancement of learning and arts under the Emperor Charlemagne, and the permanent state of civil war. "There remains the ecclesiastical aspect: I will not stay to dwell upon the part that Arles has played in the history of the Church, on Constantine, or on the Church Councils; rather let me emphasise the noble part played by the Church during the horrible centuries which preceded the Renaissance of the eleventh century. Having now sketched the conditions and influences under which these isolated religious communities existed, we must glance at the architecture which they produced. As Viollet-le-Duc says: 'The fragments of architecture which remain to us of the sixth and seventh centuries are but pale reflections of the Roman art, often of *débris* thrown together haphazard by unskilful workmen executing masonry and brickwork with much difficulty.' In Provence, as well as in its vicinity, many buildings appear to incorporate Roman fragments; we are told that these are slavish copies, but it would be wrong to jump to too hasty a conclusion on the point. There are some typical examples, as the porches of Notre-Dame at Avignon, and at Aix in Provence, which appear to bear the stamp of

Roman work; but a little consideration will show us that they are only slavish copies. But, coming nearer, we find a delicacy of execution which seems to indicate that they are either genuine Roman fragments or copies by craftsmen who were certainly not ignorant of traditional training; also the positions occupied by these fragments frequently indicate an incongruity of treatment quite incompatible with original work. One of the first problems which confronted the Provençals was the covering of their buildings. The country produced no suitable timber, but stone in plenty. The school of Provence contented itself with the simple pointed barrel vault over narrow, low naves, only trusting to the massiveness of the walls to resist the thrust, or, where aisles were adopted, formed a kind of continuous flying buttress, and raising the wall over the arcades sufficiently to be pierced with windows." The lecture was illustrated by numerous sketches. Mr. Butler Wilson, in proposing a vote of thanks to the lecturer, said that he noted with pleasure the individuality of the architecture of Provence, and the way they had overcome the difficulties by purely local materials. Mr. A. E. Kirk seconded, and Messrs. Chorley and Hope supported the resolution, which was carried.

G. ERNEST REASON.

SHEFFIELD SOCIETY OF ARCHITECTS.

At the meeting of this Society held on the 25th January Mr. C. F. Innocent delivered a lecture on "English Renaissance Architecture, 1650 to 1700," illustrated by lantern slides. Mr. W. J. Hale presided. The lecturer first explained the smaller local buildings of the period, and showed that they were still in their details Jacobean, with mullioned and transomed windows and label moulds and strings. It was only in a certain stiffness and formality in the arrangement of the parts that there was a difference from the work of the preceding period. Walkley Old Hall was an example of this. In remote districts, such as the Little Don Valley, Gothic details still lingered on, even until the early years of the eighteenth century; and the porch of Midhope Church was an example of this. There was thus less than half a century in this district between the last of the Gothic work and the first building of the Gothic revival: the Ravenfield Church, designed in 1756 by John Carr, of York. During this period English garden design attained its greatest perfection under the influence of the great French garden designer, Le Notre, and the period was interesting as being that of the transition from the formal to the landscape school of gardening. The walled-in gardens and courtyards of Eyam and Derwent Halls were examples of the earlier idea; and the spacious garden at Sprotbro' Hall, which was built in the reign of Charles II., was a fine example of the

Restoration period. The great houses of the neighbourhood were naturally much purer in their style than the smaller, and Chatsworth House, designed by Talman, the rival of Wren, and the most important building erected in the neighbourhood during the period, was pure Renaissance, and exhibited no trace of Jacobean design. It was difficult to realise that Eyam Hall was only a few years earlier in date than Chatsworth, but such is the case. At the end of the seventeenth century the people of Sheffield indulged in a new Town Hall. The accounts had been preserved by the Town Trustees, and the cost of the building appears to have been about £300. The hall stood at the church gates, across what now is the bottom of Church Street, and was pulled down a century ago. The doorway now preserved in Weston Park had been supposed, without any evidence, to have been the entrance of the hall. In this district during the period, the use of timber-work for outer walls was given up, and in the south, where good building stone was not so plentiful, great advances in the use of brick-work were made under the influence of Sir Christopher Wren. The necessary re-building of London after the Great Fire of 1666 gave Wren his opportunity, and, in addition to St. Paul's Cathedral, halls of the City companies, and other buildings, Wren rebuilt fifty of the burnt churches. The lecturer concluded with a general description and analysis of these most interesting buildings, in which, for the first time and with complete success, the requirements of Protestant worship were met. At the conclusion, a hearty vote of thanks was accorded, on the proposition of Mr. E. M. Gibbs, seconded by Mr. J. B. Mitchell-Withers, and supported by Messrs. H. L. Paterson, J. W. Green, and the Chairman.

MINUTES. VII.

At the Seventh General Meeting (Ordinary) of the Session 1905-06, held Monday, 5th February 1906, at 8 p.m.—Present, Mr. John Belcher, A.R.A., *President*, in the Chair. 41 Fellows (including 16 members of the Council), 49 Associates (including 3 members of the Council), 2 Hon. Associates, and numerous visitors—the Minutes of the Meeting held 22nd January 1906 [p. 180] were taken as read and signed as correct.

Count Plunkett, *Hon. Associate*, attending for the first time since his election, was formally admitted by the *President*, and signed the Register.

The *Hon. Secretary* having announced the decease of John Pollard Seldon, *Fellow*, moved, and it was thereupon resolved, that a letter be sent on behalf of the Institute to the widow and family sympathising with them in the loss they had sustained, and expressing the appreciation of the Institute for the merit and work of its late distinguished Fellow.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election—viz. As

FELLOWS (28): Albert Thomas Butler (Halesowen); Henry Arthur Choers; Harry Sidney Curry (Newcastle-on-Tyne); W. Ellison Fenwick (Newcastle-on-Tyne); Matthew Garbutt [A. 1892]; John Hall (Sunderland); James Henderson (Sunderland); Matthew Horner Graham (Newcastle-on-Tyne); Philip Mainwaring Johnston; Ernest William Marshall [A. 1897]; Thomas Henry Nowell Parr; Philip Edward Pidditch, F.S.L.; William Dymock Pratt (Nottingham); Winter Hargreaves Raffles; George Ransome [A. 1880] (South Africa); Thomas Robert Richards; Stafford Denison Robins (Newcastle); John Sansom (Liskeard); Herbert Arnold Satchell [A. 1888; *Institute Medallist (Essays)* 1888]; Walter Scott-Deakin (Shrewsbury); Harry Sirt [A. 1888; *Institute Medallist (Essays)* 1888]; Willie Swinton Skinner (Bristol); William Stewart; Arthur Sykes [A. 1888; *Soane Medallist* 1889]; John Allick Thomas; Arthur Edmund Thompson; Thomas Francis Tickner (Coventry); Arthur Edward Watson (Newcastle-on-Tyne). As ASSOCIATES (44): * Arthur Willmott Addison [*Special Examination*] (Cambridge); Andrew Danekins Aitken [*Probationer* 1904, *Student* 1904] (Airdrie, N.B.); James Hutcheson de Caynoth Ballardie [*Probationer* 1895, *Student* 1900]; Joseph Boyle [*Probationer* 1898, *Student* 1901] (Bolton); James Ellis Braithwaite [*Probationer* 1900, *Student* 1902] (Leeds); Sydney Bridges [*Probationer* 1898, *Student* 1901]; Albert Edward Bullock [*Probationer* 1900, *Student* 1902]; Michael Bunney [*Special Examination*]; John Cocker [*Probationer* 1901, *Student* 1903] (Altrincham); Tarnas Talfourd Cumming [*Probationer* 1899, *Student* 1902]; Ernest John Dixon [*Probationer* 1896, *Student* 1900]; Bertram Drummond [*Probationer* 1897, *Student* 1901]; Frank Dyer [*Probationer* 1898, *Student* 1903] (Manchester); Thomas Speirs Fraser [*Probationer* 1890, *Student* 1895] (Cardross, Dumbarton-shire); William Curtis Green [*Special Examination*]; Ernest Llewellyn Hampshire [*Probationer* 1899, *Student* 1901]; George Hanson [*Probationer* 1901, *Student* 1902] (Hallifax); Charles Henry Holden [*Special Examination*]; Adam Hunter [*Special Examination*] (Colwyn Bay); Alexander Hay Lamont [*Probationer* 1902, *Student* 1903] (Edinburgh); Leonard William Crandall Lorlen [*Special Examination*]; Walter Kingsley McDermott [*Probationer* 1903, *Student* 1903]; William Percy Marr [*Probationer* 1897, *Student* 1903] (Kingsbridge, S. Devon); Daniel Mitchell [*Probationer* 1901, *Student* 1902]; Henry Alfred Moon [*Special Examination*]; Geoffrey Morland [*Probationer* 1901, *Student* 1904]; Henry Stanley Morris [*Probationer* 1901, *Student* 1903] (Auckland, N.Z.); Albert Robert Myers [*Special Examination*] (Edinburgh); Albert Carr Noley [*Probationer* 1898, *Student* 1900] (Surrey); Dominic Mary O'Connor, B.A., B.E. [*Probationer* 1901, *Student* 1903]; Alfred James Peyto [*Special Examination*]; Stanley Churchill Ramsey [*Probationer* 1899, *Student* 1902]; William Henry Riley [*Probationer* 1903, *Student* 1904] (Lolcester); Herbert Ryle [*Probationer* 1900, *Student* 1901]; Dugald Alexander Shaw [*Special Examination*]; James Hughian Shearer [*Probationer* 1900, *Student* 1901] (Exeter); Percy Montague Stratton [*Probationer* 1901, *Student* 1902]; John Reynolds Sykes [*Probationer* 1899, *Student* 1902]; Percy Turner [*Special Examination*] (Bradford); Marcus Oswald Type, F.S.L. [*Special Examination*] (Birmingham); Reginald Francis Wheatly, B.A. [*Probationer* 1901, *Student* 1903]; Edmund Charles Morgan Willmott [*Probationer* 1900, *Student* 1903]; Leonard Sutton Wood, B.Sc. [*Probationer* 1904, *Student* 1904]; Henry Edward Woodsend [*Probationer* 1900, *Student* 1902] (Nottingham).

The President announced that the Council proposed to submit to His Majesty the King the name of Sir

Lawrence Alma-Tadema, R.A., F.S.A. [H.F.], as a fit recipient of the Royal Gold Medal 1906.

Mr. John W. Simpson [F.] delivered a CRITICISM OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1905.

The presentation of prizes was made by the President in accordance with the Deed of Award, and the various Students introduced, as follows:—

ESSAY MEDAL.

Institute Silver Medal and Twenty-five Guineas to Mr. Walter Hinds Godfrey.

Certificate of Hon. Mention to Mr. Martin Shaw Briggs.

Certificate of Hon. Mention to Mr. Albert E. Bullock.

MEASURED DRAWINGS MEDAL.

Institute Silver Medal and Ten Guineas to Mr. Albert Edwin Polcy.

Institute Silver Medal and Ten Guineas to Mr. George John Coombs.

Certificate of Hon. Mention to Mr. Percy Wells Lovell.

SOANE MEDALLION.

The Medallion to Mr. Walter S. George.

Certificate of Hon. Mention and Ten Guineas to Mr. Robert Atkinson.

OWEN JONES STUDENTSHIP.

Certificate to Mr. Charles Gascoyne, Owen Jones Student 1906.

Five Guineas to Mr. W. J. Davies.

Five Guineas to Mr. A. D. Nicholson.

Five Guineas to Mr. A. R. H. Jackson.

PUGIN STUDENTSHIP.

Mr. G. Drysdale introduced as the Pugin Student 1906.

Certificate of Hon. Mention to Mr. Jordan Green.

TITE PRIZE.

Certificate to Mr. Allick George Horanell.

Medal of Merit to Mr. Charles Bulman Pearson.

Certificate of Hon. Mention to Mr. Cecil Laurence Wright.

ARTHUR CATES PRIZE.

Forty Guineas to Mr. John Hatton Markham.

GRISSELL GOLD MEDAL.

The Medal and Ten Guineas to Mr. George Nott.

AMBITTEL PRIZE.

Books value £10 to Mr. John Hatton Markham, *Ambittel Priceman*.

Special Prize of Books value £10 to Mr. Albert Robert Myers.

SOANE MEDAL 1904.

£50 (second moiety) to Mr. F. J. Hort.

GODWIN BURSARY 1905.

Medal and £30 (second instalment) to Mr. F. R. Horns.

PUGIN STUDENTSHIP 1905.

Medal and £40 to Mr. Edward Garratt.

The President delivered an ADDRESS TO STUDENTS, and a vote of thanks, moved by Mr. Edmund Gosse, LL.D., and seconded by Professor F. M. Simpson [P.], was carried by acclamation.

The President announced that a Special General Meeting, summoned in accordance with Section 22 of the Charter, would be held on Tuesday, 20th February, when a Resolution would be moved from the Chair respecting the purchase by the Institute of a freehold site in Portland Place and the erection thereon of premises for the Institute.

The proceedings then closed, and the Meeting separated at 9.45 p.m.

* All the candidates for Associateship passed the Qualifying Examination November 1905.



Altarboard, temp. Henry VIII. From Stow's *Ancient Furniture*.

FURNITURE. By E. GUY DAWBER [F.].

Read before the Royal Institute of British Architects, Monday, 19th February 1906.

FURNITURE has been so exhaustively dealt with during the past few years in books, magazines, and newspapers, that it is difficult to approach the subject from any new standpoint. In the time at my disposal it is not possible to do more than briefly trace its development in England from the Middle Ages to the present day, and no attempt has been made to deal with it from the archaeological or the collector's point of view. It has for most of us an interest beyond the mere appreciation of its beauty, and is so closely interwoven with the habits and customs of past ages, and so clearly exemplifies the manners and tastes of the time, that its interest is almost human. The carving and ornamentation of the various pieces, the skill with which they are constructed, and the materials of which they are made, all claim our careful study and regard.

Furniture for domestic use was generally made of wood, and, therefore, to attempt to follow the history and continuity of design throughout the Middle Ages is almost impossible owing to the scantiness of the material at our disposal; but from manuscript illustrations we find nearly all the examples down to the middle of the sixteenth century of an ecclesiastical character, or what we regard as such, though of course, like the architecture of that time, it was the mere vernacular in every-day use.

Throughout each successive period the style of the furniture followed that of the architecture, and if any special piece was required, the same craftsman who built the church, monastery or castle, made it, or at any rate had such control that in character and detail it assimilated with the building. A glance therefore at any ancient piece will enable us, from its construction, material, and detail, to tell the country and period to which it belonged.

Much furniture in these times—the Middle Ages—was of a permanent character, fitted into and forming part of the actual structure, and the remainder was confined to simple forms, such as stools, benches, chests, and tables, with heavier pieces in the way of buffets, cabinets, and presses. The same materials were used for making furniture as for fitting up the buildings, and so it comes about that certain furniture is invariably associated with a certain material. Furniture followed the evolution of architecture, and every change in one was reflected in the other; to trace, therefore, these changes in detail is to write the history of both.

Household furniture in the sixteenth and seventeenth centuries was characterised by simplicity and stability of construction, and, as much of it had to be shifted from one castle to another when any great personage moved, its supply was necessarily limited, and rooms were consequently sparingly furnished. Great armouries and court cupboards formed the chief pieces in the halls of large establishments; stools and chests were the principal seats, and began as early as the fourteenth century to be fitted with upright backs and arm pieces—a survival of which is still occasionally seen in the old settles in country inns and farm-houses in the northern counties—Yorkshire and Westmorland especially. For a long period the craftsman was influenced by the architecture of the building, and he borrowed all required detail for his decoration from either the structure, metal-work, or textiles. In wrought-iron work especially, the locks, hinges, and handles of furniture were often marvels of skill.

Before tapestry became common in large houses the walls of rooms were often painted to imitate it, a style of decoration which lasted until the general introduction of panelling. Tapestry, from very early times, was used for the walls of superior apartments. It hung from a series of hooks under the ceiling down to the floor, and generally over the doors as well, being pushed aside when entering or leaving a room. Like most of the furniture of this period it was removable, and in large establishments one servant, called the “upholder,” was appointed to superintend its hanging.

For many years much of the manufactured pieces of furniture came from abroad, and for long afterwards the influx of foreign workmen from Italy and the Netherlands hindered the development of a distinctive and national taste; up to the close of the sixteenth century there was hardly a definite and decided tradition. After the design of furniture began to break through its ecclesiastical environment, when the Renaissance in Italy had developed in England, then we find a real national style gradually being evolved.

The most common kind of seats at this time were the “joyned” or framed stools, settles, and long benches. The tables, which a century previous were plain boards laid upon trestles, were now often richly carved with heavy turned and moulded legs, generally covered with elaborate embroideries, velvets, and satins, fringed and emblazoned with arms in silver and gold. The foot rails were important features in these old dining tables, as in the chairs, for they not only added much to their strength and rigidity, but they kept the feet from the damp rushes with which the floors were generally strewn. Chairs during all this period—the end of the sixteenth and beginning of the seventeenth centuries—were still scarce, and only found in the more prosperous households, and reserved for the heads of the family.

Gradually the furniture became richer, great cabinets of oak inlaid with ivory, ebony and other woods were frequent, and the common chests which for centuries past had been the general repository for articles of all kinds, now became highly ornamental.

At the end of the sixteenth century, when the use of plaster for decorative purposes was coming into use, nearly all rooms were panelled, and carving and inlay were often used.

At Hardwick Hall and Sizergh Castle in Westmorland, the rooms were panelled in oak inlaid with ebony and holly in geometric designs, a treatment adopted in a similar manner in the



OLD BEDSTEAD, ENGLISH: DATED 1591.

From Mr. F. S. Robinson's *English Furniture*. By permission of the publishers.

furniture of the period. Furniture generally was just feeling the Renaissance influence, and though its forms were severe and unyielding, and strongly tinged with architectural design and detail, yet in the houses of the wealthy, at any rate, the sumptuous hangings, tapestries,

damasks, and velvets, made up a picture of lavish display and colour, of which we can form but slight conception. Chairs in particular, though severe in form and outline, depended a great deal on carving for their effect, and pillows and cushions for comfort.

Practically all furniture in England at this period was made of oak, and though other woods were introduced by foreigners—the Flemish settlers, in particular, using ebony, walnut, cypress, and cherrywood—oak continued to be the favourite material. Perhaps the most constructively perfect period of English furniture was the end of the sixteenth and first half of the seventeenth centuries, and though it was based almost entirely on classical influences and detail, and the outlines may suggest extraneous origin, it retained a character essentially English, and soon lost any trace of foreign influence. The workmanship was of the best, the construction admirable, and framed in a manner calculated to withstand the roughest usage. The old court cupboard now becomes the elaborate cabinet, with folding doors below, recessed upper part and overhanging top, with turned and moulded pendants—the whole richly moulded, carved, and inlaid—often framed into the panelling and treated as a structural part of the room.

The chairs, whether arm or single, were framed with four, six, seven, and sometimes eight rails to the legs, the bottom ones close down on the floor—to enable the feet to be kept off the damp stones. As boarded floors came into fashion the front rails were raised or omitted, to give more freedom to the feet. All the horizontal pieces were tenoned into the uprights and pinned with oak pegs, and the whole put together with a degree of strength and rigidity truly wonderful, and admirably adapted to the material they were made of.

Many of the chairs, the arm ones in particular, were very elaborate, with carved backs, rails, and turned or moulded legs, with names, dates, and emblems cut upon them, the carving generally consisting of a series of interlacing or geometrical patterns, cut with a "parting" tool, or with a design outlined and sunk some sixteenth of an inch, and coloured.

Of the single chairs, the three kinds best known are the Yorkshire, Derbyshire, and Lancashire types. The Yorkshire one shows the peculiar arched and cusped work, with the small turned pendants and shafts planted on the side rails. The Derbyshire chairs are very similar, from the seat downwards, but are differently treated in the backs. The cross rails are straight, and between them two or three arches are introduced, divided by neatly turned spindles, with split ones, as in the Yorkshire chairs, planted on the sides. This, indeed, is one very characteristic detail of the Jacobean period. Turned work, at first coarse and heavy, for table legs, balusters, and newels, &c., had been in use for years; and now small turned spindles in oak or ebony, with round or acorn-shaped terminations, were split and laid on the sides and rails, and turned drops were added below tables, chairs, and cabinets. The fashion was copied from abroad, as this treatment was common in France and the Netherlands during the sixteenth and seventeenth centuries. The so-called Lancashire chairs, again, are somewhat like those of Yorkshire and Derbyshire, but the backs are generally higher and filled in at the top with a solid panel. Endless varieties were based on these models, and in all parts of the country widely varying designs are met with, though in the main lines they follow these types.

During the reign of Charles I., and indeed for many years previous, velvets, brocades, satins, and stuffs, had been imported from Venice and abroad, and much furniture from Italy as well as the Netherlands. Knole, in Kent, contains many Jacobean examples covered in their original material, and the peculiar X-shaped chairs, made specially for the visit of James I., covered with crimson silk velvet embroidered with gold, were doubtless based on Venetian models, although the type had been in use in this country for many years previous. The

Restoration in 1660 of Charles II., who brought with him a foreign wife and the manners and tastes of a strange court, caused a further influx of furniture and workmen from Holland, Flanders, Spain, and France ; and to this we owe a great deal of the mixed character and



OAK INLAID COURT CUPBOARD, 1663.

From Mr. F. S. Robinson's *English Furniture*. By permission of the publishers.

diversity of style so prevalent in the latter half of the seventeenth century, indeed in many cases it is almost impossible to determine the nationality of the various pieces.

Up to this time, however, in England, chairs, tables, and cabinets were nearly always constructed with straight framings, the legs, stretchers, and rails were always straight, if we

except the furniture based upon Italian models. Towards the close of the century, the spiral twisted legs, adopted from Flanders, came into fashion, and the plain circular turned ones fell into disuse. Furniture gradually begins to lose its rigid lines; and the influence, sometimes grotesque, of the Dutch cabinet-makers becomes evident. The legs very slowly develop into well-defined knees, and become cabriole legs, which before this time had not been seen in England—a fashion which soon usurped the old square framed supports, and became universal. Though the old style of furniture lingered in country districts for nearly another fifty years, yet the character was entirely altered.

As a rule, at this early period, the backs of chairs were formed of a wide cut, and shaped centre splat, at first jar-shaped, and later pierced and carved, placed between side uprights and connected at the top by either a straight or shaped rail. The raised and elaborate top of Charles II.'s time sinks into simple curves, and the carved-oak period passes, never to return.

Carving, to a great extent, at this time—the beginning of the eighteenth century—was sparingly used, the tendency being towards greater lightness and grace of line in furniture. A delicate shell ornament was carved on the knee of the leg, the foot being sometimes modelled after a lion's or eagle's claw, and the wide curved and hollowed centre panel of the back was decorated with a shell at the top and delicately inlaid with marquetry.

Marquetry is one of the distinguishing characteristics of late Dutch seventeenth century furniture, and when treated in a quiet and simple manner was very pleasing; but although it became the fashion for some years in this country, and chairs, cabinets, clock cases, and indeed all surfaces, offered opportunities for the new style of decoration, it never took a firm root, and after a few years died out.

Furniture was often entirely veneered with walnut or mahogany, upon an oak or sycamore backing, and, although mahogany is said to have been discovered by Sir Walter Raleigh in 1595, it was only now being used in a tentative and experimental way.

In a paper of this sort it is hardly more than possible to touch upon the influences that gradually changed the styles of furniture in England; but, broadly speaking, it may be said to follow the contemporary architecture of the time, and in the eighteenth century this was so marked that many schools of craftsmen and cabinet-makers based their designs almost exclusively on the models of the leading architects of the day.

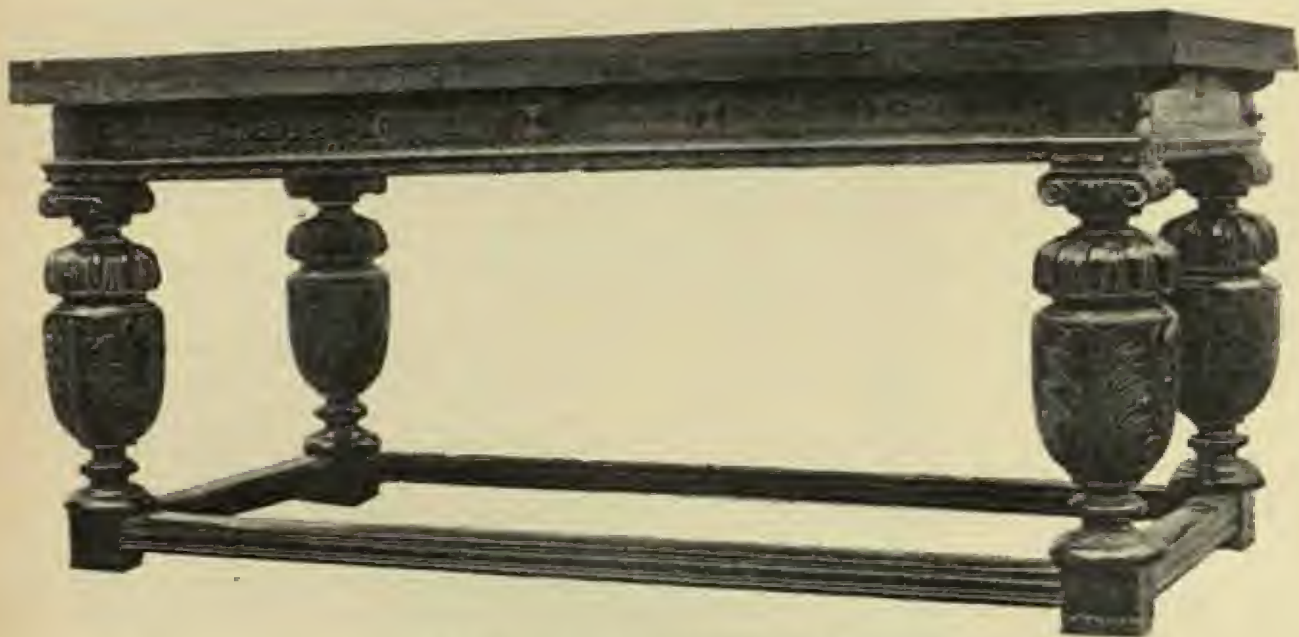
In the early part of the eighteenth century, Sir Christopher Wren had been for some years rebuilding London after the Great Fire, and had gathered around him a school of designers and carvers whose influence upon furniture makers was very marked. It was the age of constructive joinery and beautiful carving, and whether in oak or deal one single style and tradition permeated the whole country.

The broken and curved pediments over doors and chimney-pieces, and the carving of Grinling Gibbons, soon caught the popular taste, and found an echo in the cabinets and furniture of the time. The acanthus leaf, so common upon the knees of the table and chair legs, and the shell on the upper rail of the backs, are both directly borrowed from architectural details; indeed, the scallop shell, so identified with Queen Anne furniture, can be traced back to very early days. It was used in Classic and Renaissance times for the inverted tops of cylindrical niches, for water basins, for fountains, as decorative backgrounds for busts and vases, and was a favourite ornament in later French work and throughout the first quarter of the eighteenth century in this country.

At this time we see how marked was the influence of architecture on interior decoration and furniture; the architect was the chief director in all matters of style, proportion, and arrangement, until a great deal of the actual furniture was designed by him. It is not

too much to claim that the classic spirit, so predominant throughout the furniture of the eighteenth century, is mainly attributable to the influence of architects.

The name of Chippendale first became known about the middle of the eighteenth century, and though his work at the time was but little thought of, yet now it holds almost a unique position. His first book was published in 1754, and in reading it we cannot help admiring the power he possessed of combining the seeming incongruities of the so-called French, Gothic, and Chinese styles which were then so fashionable, and in making out of them pleasing and harmonious pieces of furniture, and imparting to them such symmetry and dignity. We see in his work how all his effect was obtained from outline and carving only, for though inlay, veneer, and painting had long been in use, he discarded them altogether, and worked in the



OAK INLAID DRAWING-TABLE. LATE EIGHTEENTH CENTURY.
From Mr. F. S. Robinson's *English Furniture*. By permission of the publishers.

solid mahogany. But he did not, as so many suppose, originate a style; he only carried on the existing traditions of the day and clothed them in fresh detail of his own, or borrowed from other sources.

In his chairs, for which he will always be noted, the broad seat and carved back, which were his strongest features, had been in use in England for more than half a century, and chairs almost identical in outline had been made by unknown men all over the country. His Chinese chairs, based upon the fashion familiarised by Sir William Chambers, with square underframing and rails, are similar in construction to those of the earlier Jacobean period, and show how loth the makers were to lose hold upon the traditions of the past.

At this time the country was full of excellent cabinet-makers, and the taste for everything of the new or French fashion was in the air; and by publishing a book upon work with which doubtless many of his contemporaries were familiar, Chippendale has gained a reputation and notoriety which perhaps is hardly deserved; for though he crystallised the floating ideas of the day and published them as designs, yet he cannot certainly be credited

with their entire originality. It is difficult to get over the fact that it is impossible to identify any of the designs published in his books with executed pieces. That he was a most able craftsman, a superb carver, and a clever and ingenious draughtsman, everyone will admit; but it is open to question whether it is right to attribute to him the originating of the style that now bears his name.

At this period a great many books were published of designs for furniture by both architects and cabinet-makers, all more or less trade catalogues—Mathias Lock, Copeland, Ince and Mayhew, Mainwaring, and many others. These were issued broadcast all over England, and to their influence must be attributed much of the furniture then made; but in country districts it was simplified, and, though following the new fashion, the construction and tradition of the earlier work were much adhered to. Chairs and tables in particular are frequently met with in widely different parts of the country, some plain and others elaborately carved, clearly showing that the same designs and patterns were common property amongst the cabinet-makers of the time, who embellished them or not as they felt inclined. The earlier chairs had claw and ball feet, cabriole legs, and the acanthus leaf, the successor of the shell, upon the knees, and very often the little "forget-me-not" flower—so used by Grinling Gibbons—worked into the back in several places. Towards the middle of the century we find the square legs in favour, and the carving confined almost exclusively to the backs.

Now, whatever we may think to-day of the general design of Chippendale and his fellow-workers, there is no doubt that these famous cabinet-makers thoroughly appreciated the proper limits within which carving, as applied to furniture, should be confined. Lowness of relief, adaptation to the structural lines, the employment of a maximum of plain surface with a minimum of carving, are all strongly marked characteristics of the work of this period. There is nothing to catch or destroy the dress, or projecting to hurt the occupant. Close-grained, hard mahogany was the material almost universally employed; and so the extreme delicacy and fineness of the carving suggest this material alone, and would be impossible of application to oak, as to any of the softer kinds of wood.

I do not want to weary you with an attempt to trace step by step the various changes that took place in the forms and details of furniture at this time, but there are a few men who stand out pre-eminent before their fellows, and who influenced the style of their time to such an extent that I feel constrained to speak of them.

Shearer was one of the first to recognise the value of satinwood, which he used either solid or veneered, and also that of many other rare woods for inlay and marquetry. He, perhaps, was the one man who was not carried away by the prevailing taste for the French style, and kept to his aim of providing good, solid, beautiful furniture for everyday people. His furniture is practical, sensible, and ingenious, and always worthy of admiration.

Heppelwhite may, perhaps, be entitled to be called the originator of a style, as there is a distinctiveness and character about his work, and a pre-eminently English feeling that makes it stand out from that of the many cabinet-makers who were his contemporaries. His work is altogether lighter and less cumbrous than that of Chippendale, and though, perhaps, lacking the power of invention and dignity of appearance so associated with the work of the latter, yet, without doubt, his is the one style that had more to do with influencing the taste of the day than any other. The name will always be associated with the shield and heart-shaped back chairs with the straight tapering legs, and though he occasionally adhered to the now traditional cabriole legs, yet his preference lay for simpler and more direct forms. He also favoured the employment of painted and japanned work to harmonise with the colour and decoration of rooms. The delicately carved husks, feathers, knots and



MAHOGANY CUPBOARD: EARLY EIGHTEENTH CENTURY.
From Mr. F. S. Holdman's *English Furniture*. By permission of the publishers.

ribands are characteristic of his style, and are found in some form or other in nearly all his pieces of furniture.

Particular mention must be made of the brothers Adam, and of Robert especially, who was, perhaps, as great a designer of furniture as any in the century. The strict formality of Robert's designs can be traced to his classical training, and researches with his brother in Spalatro, and to him must be attributed the credit of having introduced the elegant refinement that marks the furniture of his time. The name of the brothers was so far-reaching that at one time hardly a house of any pretension was built or decorated without their co-operation. With Pergolesi, Cipriani, and Angelica Kauffmann they worked a great deal, and, like other architects, published books of their designs for decorative fittings and furniture, which, without doubt, assisted in educating and forming the public taste of this period. Their furniture was designed not only for the room, but for particular positions in the room; and the fireplaces especially, with the beautiful chimney-pieces, delicately inlaid and exquisitely carved, with their tall mirrors over and attendant girandoles, make most effective pieces of decoration. There is a peculiar airy grace and perfect sense of proportion and fitness about Adam furniture and work that is especially captivating, no doubt attributable to the designers' architectural training.

With Thomas Sheraton furniture, perhaps, reached its acme of delicacy and finish, and sank to nearly its lowest ebb, and it is matter for much reflection that a man who could design such masterpieces as Sheraton should at the close of his career deteriorate to positive ugliness, and pander to the debased taste of the day. In his finest work there is great sincerity and truthfulness; the ornament and decoration is only introduced as part of the expression, and admirable construction and perfect workmanship are always found.

Sheraton worked a great deal in mahogany and satinwood, painted and inlaid, and seldom had recourse to much carving. His ornament is very severe and chaste, chiefly consisting of a combination of classical details, urns, rosettes, festoons, and swags, and his favourite pendent bell flowers. In his earlier work simplicity of outline was one of his greatest characteristics; and however elaborate the decoration, it always formed and looked a part of the furniture, and did not give the impression of being applied merely for the sake of ornament. There is no doubt that his influence was greatly felt throughout the country, even more so than that of Chippendale, and a great amount of refined and quiet work was the result.

The list of eminent furniture makers and designers may be fitly closed with Gillow, whose speciality was inlaying with delicate threads and frets of metal; but his work is not in any way equal to that of his predecessors, and after him furniture designing so rapidly declined that by the middle of the nineteenth century it absolutely ceased to exist as an art.

A few things with regard to furniture stand out pre-eminent in bygone days—the first, that its form and detail were so admirably adapted to the material it was made of; the second, that it always was so singularly suitable to its environment—two facts that mainly contribute to its charm and interest.

How admirably suited was the oaken furniture of the Elizabethan and Jacobean periods to its setting of panelled and tapestried walls, low ceiled rooms, and latticed casements; how its quiet colour and severe lines harmonised with its surroundings, and gave just that sense of completeness that was needed to accord with the dress and manners of the day.

Then think, again, of yet a later period—that of the mahogany school of the eighteenth century—a century which stands unrivalled in its production of beautiful furniture. How pleasantly the graceful curves and sinuous lines of the dark wood show up against the white panelled rooms of the Georgian period; nothing could be more suitable to its environment than the delicate yet virile workmanship of Chippendale and his contemporaries, or the pleasing fantasies of Heppelwhite and Sheraton.

In the seventeenth and eighteenth centuries the influence of architects in guiding public taste was evidently much greater than now, and the published works and drawings of such men as Inigo Jones, Wren, Chambers, the brothers Adam, and many others, show that the designing of the fittings and furniture came well within the scope of their work. They were not only thoroughly conversant with the planning and arrangement of furniture, but were consulted as a matter of course by their clients, who did not venture to decide such matters without their aid—a great contrast to the feeling with which architects are, I fear, regarded to-day.

Towards the close of the eighteenth century, though the design of furniture was still influenced by the architectural features and character of the houses it adorned, it begins to show that the necessity for the two being absolutely in harmony with each other was not considered essential, for a great school of specialists in furniture-making had arisen, and the association between the architect and cabinet-maker was beginning to weaken, until it ceased to exist.

About half a century ago, or even less, a time when perhaps domestic architecture in England was at its lowest ebb, things reached such a pass that the fashion in furniture became absolutely regardless of architectural principles or fitness, and only the idea of comfort and luxury prevailed, until the inevitable reaction set in, and people, finding they could no longer get new furniture which was not an eyesore, perforce reverted to the opposite extreme; viz. the older styles of former days.

Then came the difficulty which still exists—which particular style amongst those of the past to select. All, perhaps, are equally incongruous in modern houses, yet all appeal to people in different ways; and now that in the mind of the general public architecture and furniture have been definitely divorced from one another, it is the fashion for people to pick up pieces of furniture, some Jacobean, some Chippendale, some Sheraton, quite indiscriminately because they happen to be beautiful, quaint, or old, and fill their houses, utterly indifferent to the effect produced.



Eighteenth century cane chair.
In the possession of Mr. Langton Denile (A.).

All this brings us back to one thing worth noticing—that throughout the periods when architecture flourished and was a living art, furniture was the same, and very beautiful work was the result; but as soon as there ceased to be any real tradition in architecture, so at the same moment furniture died out. The two are inseparable—they always have been and always will be; and just as to-day we have, I firmly believe, a real living common-sense style of domestic architecture, so also, with its development, will a real style of furniture arise. But so long as we have no new furniture to rival the old in beauty, workmanship, and durability, and in keeping with present-day architecture, as well as in accordance with modern requirements, so long will this system of furnishing with old examples, or modern copies of it, continue.



SEATTEE SETTEE IN SATINWOOD.

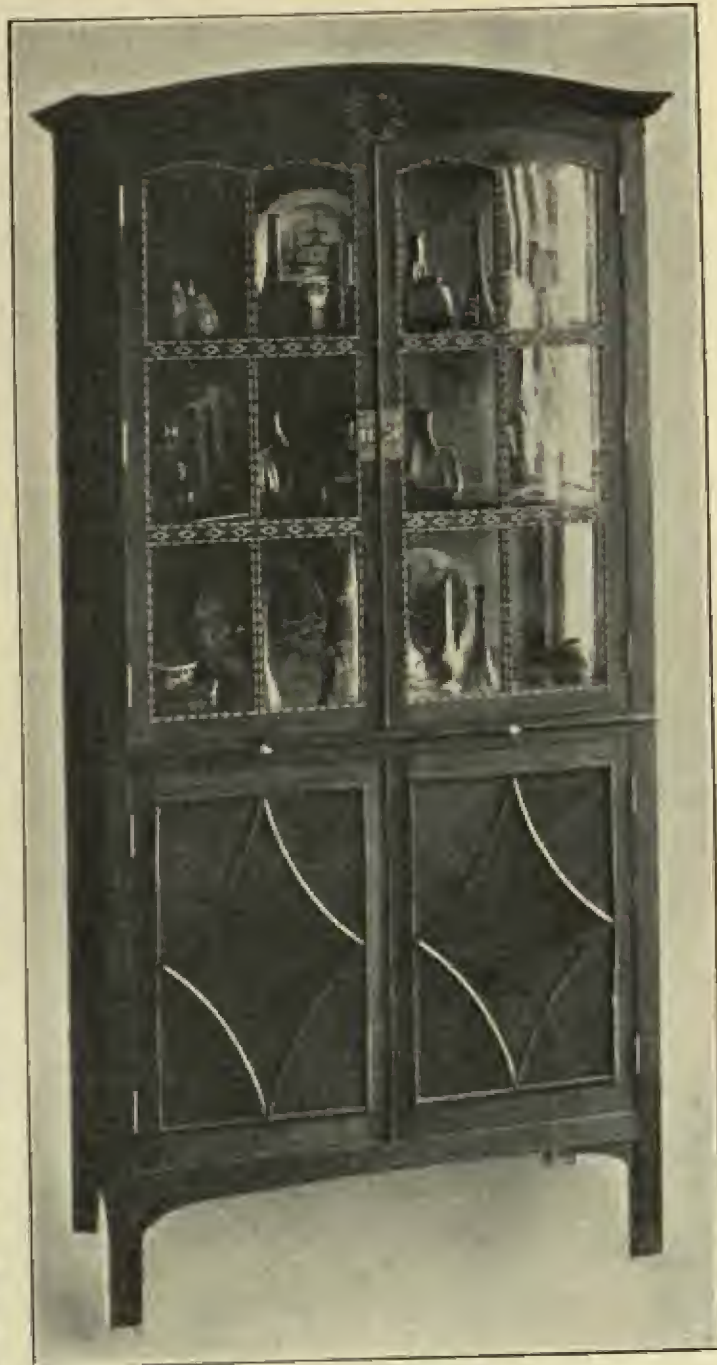
Photographed from the original in the possession of the Messrs H. and J. Woolton.

There is undoubtedly a great effort being made at the present time amongst many of our ablest designers and craftsmen to remedy this by producing designs for furniture original and artistic in treatment; but I feel, and I may be entirely wrong, that the reason this movement has not been so successful as it might be, is that labelling their efforts with the hall-mark of "simplicity"—that admirable but much abused term—the feeling of modern furniture is somewhat too archaic and too primitive to appeal to the luxurious age in which we live. It is the old story of the swing of the pendulum—the over-elaboration so conspicuous in the bad styles of our fathers has led many to go to the opposite extreme, and design furniture that is too simple and whose lines are too rigid and severe to combine, as they should do, simplicity, elegance, and comfort. Not only in design but also in material are we too archaic, mahogany giving place to untouched oak; polished woods to raw green stains, and inlaid satinwood to pewter and ash!—furniture, in fact, more suitable to country cottages, or simple and unpretentious houses, and quite unfitted for rooms with any greater claims to decoration or design.

There is still too much inclination in aiming at simplicity of form to neglect the beauties of form altogether. Because mouldings have been excessively or wrongly employed, there is a tendency to abjure them altogether, so losing one of the main factors in creating beauty and interest.

Of course, to class the whole of the modern furniture produced to-day in such a category would be absurd, for we have designers and craftsmen who, if only given the opportunity, can design and make furniture which can rival the productions of past ages. But until there is some settled standard of thought and tradition permeating the whole country, any efforts at design in furniture must be but isolated and individual.

I do not suggest that an architect should design furniture; but he should have in his mind the house he is building, finished and furnished complete, just as a painter has a mental impression of the last state of a picture he may only be beginning to put on canvas. That impression may be modified and improved in detail as the work proceeds, but the general scheme, the broad idea, will remain. For the architect, however, who is more thorough in his work, and is not content with constructing the mere shell of his house, who will try to give his clients the best possible arrangement in his rooms, there is much scope for excellent effects, by planning permanent fitments, such as book-cases, cupboards, side-board, recesses, and so on. There is, I am aware, a prejudice against such things, because, now that furniture removing is so easily accomplished and the love of change so restlessly indulged in, people like to feel that what they have in one house they can take to another, and not leave as a fixture for the next tenants.



CABINET, DESIGNED AND MADE BY MR. J. H. B. B. B. B. B.

In bedrooms, fittings of a certain kind are common enough—carried out, not by architects, but by firms of upholsterers, in any style that happens to appeal to them, or their customers' taste. But that is not quite the sort of thing we want, which must be something essentially part of the architecture, and which will also bear the invisible, but none the less readable, signature of the man who is responsible for the room itself. And it is even more important that this kind of fixed furniture should be designed by the architect than the movable kinds, such as cabinets, tables and chairs, inasmuch as it is more completely part of the house itself.

The British have the world-wide reputation of being an inartistic nation; but one cannot look round at the present day without being struck by the fact that this reproach is being removed, for a great many people have either become artistic themselves or have attained to the wisdom of Socrates in admitting that they know nothing, and are therefore content to leave the work to those whose business in life it is to show them what is artistically right and in good taste. With the improvement in domestic architecture, which is so marked, it will, I feel sure, only be a matter of time before the public realise that good, sensible, modern furniture can be equally well obtained at a reasonable cost; and this result would be greatly helped if architects generally would give more thought and care than they do at present to the finishings and furniture of the houses they design. For though it is impossible, and, I think, unnecessary, that they should emulate the example of the brothers Adam, and design the contents of the house from garret to cellar, yet an architect's training and sense of proportion should enable him to exercise a very helpful power in controlling and directing the taste of the public.

[The author gratefully acknowledges his indebtedness for photographs and slides kindly lent by Messrs. Methuen, the publishers of Mr. Robinson's *English Furniture*; Mr. A. H. Bullen, the publisher of Miss Constance Simon's book on *English Furniture Designers*; Miss Woollan, Messrs. Langton Dennis, Edgar Wood, C. F. A. Voysey, Chas. Spooner, Arthur J. Penty, Ambrose Heal, Ernest Gimson, Dan Gilson of Windermere, etc., and to the authorities of South Kensington Museum.]

DISCUSSION OF THE FOREGOING PAPER.

Mr. LEONARD STOKES, *Vice-President*, in the Chair.

MR. PERCY MACQUOID, R.I., Author of *A History of English Furniture*, said he had been asked at a moment's notice to speak on this subject, but it was very difficult to add anything to Mr. Guy Dawber's admirable Paper. He had given them, in an extremely simple way, a very large grasp of a very large subject, and condensed pretty well all the types known of English furniture into a very small compass. It was extremely difficult in so short a space of time to give, as Mr. Dawber had done, an idea of how one period melted into another; but they had seen by the admirable illustrations on the screen that those links were very perceptible; and that, to his mind, was the great interest in furniture; it was the periods of transition that taught one the past. He should like to have seen a little more of the Elizabethan period, but it was extremely difficult to obtain fine and genuine examples. The court cupboard, for instance—a very important piece of furniture—really comprised every necessity

of the family. The court cupboard shown them was a very old friend of his; and he could tell them a story connected with it. He noticed that court cupboard some years ago, and, although he had the greatest respect for the authorities of the Victoria and Albert Museum, he thought its authenticity was doubtful. He took a note of the date on it, and the workmanship. Some time ago a gentleman in the West of England sent him some photographs of two chairs of the same date and the same touch of the hand as this court cupboard, and asked him to come and look at his furniture. He was so curious to see these chairs that he went down and saw all the furniture. Imagine his horror when he found the hall filled with work of the same kind as the court cupboard and the two chairs! The gentleman pressed him for his opinion about the furniture, and he had to tell him that not one single piece of it was genuine, and gave his reasons for this opinion. The owner told him that he had been getting it

piece by piece during the last fifteen or twenty years. That would be, Mr. Macquoid thought, about the time South Kensington had got the court cupboard. The furniture, his friend went on to say, "came from a family in the North who were greatly reduced in circumstances; and it was all made by the carpenters of the family in the reign of James I." This gentleman had spent a very large sum of money on old furniture. He (Mr. Macquoid) was glad to say that the whole of it had now been returned to "the carpenters of the reign of James I.," and his friend had been able to purchase other and genuine furniture with the money returned to him. One of the most beautiful specimens in oak Mr. Dawber had shown them was the Charterhouse table. That was especially interesting, because it showed the very strong influence of Henri II. and the French style of about 1554 and 1556. Mr. Dawber had mentioned the fact that walnut was used; but walnut was no doubt very extensively used, and some specimens entirely constructed of walnut were made between, say, 1570 and the beginning of the Civil War, and so great an impression had this walnut made upon the people that they evidently planted a succession of walnut trees to make ready for the Restoration of Charles II. These Charles II. people made nothing but walnut furniture. The walnut in the sixteenth century was evidently used as a rather precious thing, for one never finds an inferior piece of furniture made of walnut in Elizabethan or Jacobean times. The date of the Yorkshire chairs—viz. 1620—also seemed a little early, because the interesting split baluster in those chairs was, he fancied, a little later in date. If these were not later, there would be no chairs made between the Restoration chairs and those very distinctively made in 1625, and he could not imagine that a local variety would have sprung up so early as 1620 bearing the split baluster. That split baluster must have come, of course, from Holland through Suffolk, and then got up North. One also missed the very rare and very difficult specimens to obtain of gilt furniture beginning about 1720 and going on to about 1725 and 1730, the taste for which, he should imagine, came in with the Guelphs. It was a very showy sort of stuff, and did not belong, in English feeling, to the rest of our furniture; but at the same time it was very interesting. The knees of the chairs and sofas bore an ornamentation which he was at a loss to account for; and if anybody could inform him what it meant, he should be deeply grateful to them. It consisted of a lion's mask on the knees and an eagle's head on the end of the arms. The lion's mask and eagle's head must have some symbolic meaning, because one found them only in that period and very extensively reproduced, together with an extremely objectionable face—evidently representing somebody of the time, and he should like to know who. He agreed entirely with Mr. Dawber about Chippendale.

He was a very able man who did very little that was original, except to refine and make lighter certain forms that existed before him, and to make those forms more practicable and suitable to the costume and appearance of the people who used those chairs; for it must be remembered that when Chippendale began the costumes altogether lightened. Powder came in, and waisted coats. Stockings just then began to turn down and go under the breeches; up to the time of George II. stockings had been rolled over the knee breeches. The whole costume of the first George and Anne was far more clumsy, and the furniture far more suitable to the rather dull and clumsy-looking people who used it. Chippendale began at a far brighter and really more intellectual and gay period, and consequently one found a rather more lively characteristic introduced into his furniture. With regard to the Adams he had nothing to say: Mr. Dawber had shown how very beautiful the Adam furniture was, and how very apt we are, in talking of the merits of Mainwaring, Heppelwhite, and Chippendale, to neglect that of Adam. He was architecturally complete in his structure, and where one found, as Mr. Dawber remarked, Adam in possession of a house—where that house was originally designed by Adam, and the furniture designed by him, and it still remained in its original place, the effect was most beautiful. He should like to mention that there was one particular house in this country, a very beautiful Adam house, where the whole of the furniture of the rooms had never been stirred from its original position—viz. Lord Jersey's house at Osterley. The triumph of inlay to be seen there on the sofas and chairs was remarkable. All the delicate and classical designs were inlaid on the round faultlessly, and not one piece of inlay had started, although the sun poured into the room. With regard to the modern furniture Mr. Dawber had shown them it was most interesting, and he had no doubt that when they found a public who would pay as much as their ancestors had paid for the furniture of which they had just seen photographs, they would produce something respectable. At present it seemed to him that the wood was rather flat, the mouldings were rather flat, and a great many uprights ended in sealed tops and poppy heads, which suggested that clothes should be hung upon them; the hinges were very much larger than they need be; and altogether there was a sense of affectation and bareness that was not attractive. As to *l'art nouveau* he thought it was beneath contempt. It was only the result, he should think, of a person who had lived entirely by himself, who was neglected by society, and who, when he sat down to design furniture, dined off red herrings and absinthe. His aim was to produce something extraordinary, and he thoroughly succeeded in doing it. They had to thank Mr. Guy Dawber for having in a very short space of time given them a very comprehensive view of this interesting subject,

and he begged to propose a hearty vote of thanks to him for his Paper.

Mr. J. D. CRACE [*H.A.*] said he had very great pleasure in seconding the vote of thanks to Mr. Guy Dawber for his interesting Paper. He felt still more interested in saying something to thank him, because it was now forty-nine years since his (Mr. Crace's) father had read the first Paper on this subject before the Institute. It was particularly fixed on his mind because he (Mr. Crace) had had a large hand in preparing the diagrams for the Paper. There were many points Mr. Dawber had touched upon that were very interesting, and one might very easily go into detail which it was not desirable to do; but there were one or two things which occurred to him were interesting, and might be called to mind. For one thing, Mr. Dawber had made a little light of the advantage which might be had in tracing furniture, historically at any rate, from the old representations. The illustrations to be found in old manuscripts were by no means exclusively ecclesiastical. Far from it; many of the dedication pages, for instance, in the old books showed the domestic interior of the person to whom the book was presented, and in that way extremely interesting details were often given. Then there were very interesting specimens of furniture scattered about the country in some of the old houses, of even pre-Elizabethan time. He recollected seeing a distinctly original bedstead, which had certainly never left the house since the time of Henry VII., at Cothelie, Lord Mount Edgemund's place on the Tamar. There was a great mine of interesting furniture at Hardwick Hall. He was sorry Mr. Dawber had not laid a little more stress on the amount of inlay work done in Elizabethan times. Elizabethan furniture was often extensively inlaid. Reference had been made to inlay on the round in the Adams' time, but inlay on the round existed in the most charming way at Hardwick Hall of the time of Elizabeth, and done apparently with a view to Queen Elizabeth's visit to Hardwick. It was on the turned leg of a table which had a sort of complimentary message on the top. There was the Royal device, and the Cavendish arms with the supporters, the two stags, and the wild rose twining between them in compliment to Queen Elizabeth. The verse was to the effect that "The redolent smell of eglantine We stags exalt to the divine"—evidently a compliment to the Queen. Then there was an immense deal of furniture of about the time of William III. in the same house, and especially some extraordinarily fine specimens of the State bed of that period, with great carved canopies covered with velvet and silk, altogether very interesting archaeologically. Knole, of course, was also a most interesting house in the way of furniture. Going through the period of the Georges involved styles of furniture which had been very much sought out during the last decade or so; but perhaps Mr. Dawber went rather far

in saying that design had already given out in the middle of last century, because he believed it was then reviving very considerably. It began to revive before the Great Exhibition—in fact, the Great Exhibition was the outcome of the sense of a certain number of people of the want of having designs in the accessories of life better understood. But there was a great deal of admirably designed and very well executed furniture produced from 1850 and up to the end of the century. Anybody who could look back upon the horrors that appeared in shops when he was a young man would look now, and, even taking an ordinary shop-front of Tottenham Court Road, think it quite gem-like compared with what existed then. A great deal of the furniture produced by the ordinary furniture makers to-day might not be of a very high quality, or of a very high quality of design, but it had the right intention; it had a right general notion of what design should be, and did not include those abominations of the early half of the nineteenth century. He begged most cordially to thank Mr. Dawber for his Paper. It was very useful to bring this and kindred subjects before the Institute from time to time. Undoubtedly all architects would do better to take a keen interest in the contents of their new houses, whether they designed them themselves, or whether they found somebody capable of designing for them the accessories; because, naturally, they were greatly interested in the effect—and the total result of the interior would always depend to some extent upon the accessories finally occupying it.

Mr. MAURICE B. ADAMS [*F.*] said that there was one period in the history of architecture in regard to furniture which had not been alluded to, but which struck him as being extremely interesting. He referred to the time when Mr. Burges and Mr. Street and Mr. Eastlake and Sir Arthur Blomfield were interesting themselves in designing furniture, some of which was extremely good, and which—especially that of Mr. Burges—ought to have some recognition if they were to show the work that nowadays was generally associated with the Arts and Crafts School. In Mr. Burges' house in Kensington—which he should like to see acquired as a national monument, because it really was a most wonderful piece of uniform design, thoroughly worked out from beginning to end by one of the most distinguished architects of the nineteenth century—in that house, and also in his offices at Buckingham Street (from which many pieces were removed to his house subsequently), he carried out the idea, which William Morris and Rossetti and Burne-Jones also realised, that one can have perfectly plain furniture, and can enrich it with the most beautiful painting both inside and out, and make it extremely interesting, and a supreme work of art. Mr. Burges in his house, acting on the lines of the painted medieval armoire at Bayeux, decorated a series of bookcases in his library, beginning A. was the Architect, B.

was the Builder, and so on, all round the room. He employed in doing this Stacy Marks and Sir E. Poynter. Inside this furniture he painted most delightful representations of plant life—all part and parcel of the story. Burges, to his mind, lifted furniture to a higher plane even than the exquisite cabinetwork the work of Chippendale and others. Whether it was desirable to paint chairs and suchlike articles subject to hard usage, where the painting was liable to be worn off, was another matter; but, in bringing the history of furniture up to the present time, as Mr. Dawber had done, it would be a pity if we left out of our mind such work as that which belonged to the now much abused period called the Gothic revival. There was some very nice inlaid work at that time by Bruce Talbot; and Brydon followed on much in the same way. They were friends, and Scotchmen both of them—and between them they did some extremely nice work, which would bear criticism even from the present standpoint. There was very much more intelligent individuality in it, and very much more thought, than there was in some of the semi-barbaric rabbit-hutches which we see with huge iron hinges, &c., and interiors extremely difficult to get at and of very little use. This was a subject he (the speaker) had taken a great interest in all his life; perhaps he had been inspired principally by the writings of Mr. Eastlake, who was so long associated with the Institute. Some years ago, when his friend Mr. Aldam Heaton read a Paper on furnishings in that room, the subject was rather disparaged by some members of the Institute as being a matter which architects nowadays had no time usefully to turn their attention to. He thought that was a great mistake. When one goes into some of the delightful modern houses which architects are building all over the country, where they have been allowed to have a voice in furnishing the houses they have designed, the result is extremely satisfactory, and must be a great delight to the owners who were well advised enough to allow their architects to have a voice in the matter. On the other hand, one goes into other houses of this class where is to be seen some of the most atrocious furniture that is possible to be introduced, and the incongruity of which in such houses is painfully evident. In the designing of furniture, as in the fitting up of our homes, it must be remembered that the people who use them ought not to appear incongruous with them. Mr. Macquoid had brought out most correctly that it was not only the architecture of the period which influenced furniture, but also the costume and style of the people who used it. He had known Mr. Dawber a good many years, and he remembered the first time he met him was when he showed him some sketches he had made of furniture in East Anglia. He was not surprised to find he was still interested in the subject. He wished to join in thanking him very heartily for the concise and

extremely interesting way in which he had brought the matter before them.

Mr. H. D. SEARLES WOOD [F.] said he knew how much Mr. Burges's house was appreciated, and if he might suggest it, it would be a very charming object for a visit during the coming Congress if it could be arranged. There were several other houses which had equally interesting furniture and decorations in them which could be added to the list if such a visit were contemplated. Mr. Guy Dawber had not referred to Owen Jones's work. In Carlton House Terrace there was some very interesting furniture and decorative work.

Mr. ARTHUR PENTY said that it always appeared to him, although he did not know that one should be severely critical about old furniture, that very little of it was entirely satisfactory. One would see a chair the legs of which were beautiful but the back of which was weak. The earlier work was vigorous, but there was a lack of refinement about it. Then in the later work there was refinement, but the vigour was gone. One felt, too, that the same standard of design never appeared to have been maintained in furniture as had been maintained in architecture.

Miss ELEANOR ROWE, referring to Mr. Macquoid's allusion to the spindle ornamentation as being rather too early at 1820, asked if Mr. Dawber would give them its earliest date according to his observations. In Nash's *Mansions of England* there was a drawing of the Montacute room with the interior porch—about 1580—and the spindle ornamentation was given in it.

THE CHAIRMAN, in putting the vote of thanks, said he was sure they had all very much appreciated Mr. Dawber's Paper. It was a subject he (the Chairman) was very much interested in. He liked collecting old things, but he did not pretend to understand when they were made or who made them. It was very interesting to hear Mr. Dawber's experience, and they were all grateful to him for giving them the benefit of his knowledge.

Mr. GUY DAWBER, in reply, said he had to make an apology, because he felt that in undertaking to read a Paper on furniture he ventured on far too big a subject. It was quite impossible to trace properly the history and evolution of furniture in half an hour or so, as the subject was so vast and covered such an enormous ground. Hardwick Hall he knew well and also the furniture, much of which he had sketched, but it was impossible to touch upon matters like the inlay and painted work here in the time at his disposal. He could not quite agree with Mr. Macquoid in what he said about the split baluster on the chairs. He (Mr. Dawber) had two remarkably fine Derbyshire chairs which had these split balusters and turned drops, and he had always dated them at about 1610 to 1615, and at present his researches had not led him to any other conclusion but that they were of this date.



9, CONDUIT STREET, LONDON, W., 24th Feb. 1906.

CHRONICLE.

Election of Fellows, 5th March.

The Council direct the attention of members to the following statement:—

In compliance with requisitions in writing duly signed according to the provisions of By-law 9, the election of the twenty-eight candidates for Fellowship nominated by the Council for election at the Business Meeting on the 5th March will be taken by voting papers.

The Council are aware that these requisitions proceed from a widespread feeling that the Institute should avail itself of the permission granted by Clause 3 of the Charter to declare that every person desiring to be admitted a Fellow shall be required to have passed such examination or examinations as may be directed by the Royal Institute.

Sympathising with this feeling the Council adopted it as their policy in 1904, and at a Special General Meeting held on the 29th February 1904 a resolution was passed to the effect that after the 31st December 1906 no person shall be admitted a Fellow unless he is either an Associate or has passed the examination or examinations qualifying him as an Associate.

On the same evening, however, the General Body passed the following Resolution:—

"That during the intervening period (i.e. till the 31st December 1906) every architect eligible under the Charter for election who desires to join the Institute as a Fellow be encouraged to do so."

In consequence of these resolutions becoming generally known in the profession a large number of eligible candidates have come forward during the last two years. The Council are convinced that it is to the interests of the Institute that thoroughly qualified architects in various parts of

the country whose age and busy practices preclude them from entering for examinations should become Fellows before the door is for ever closed against them.

At the same time the Council have subjected the qualifications of candidates during the last two years to the same careful scrutiny and inquiry as has been their practice during the whole existence of the Institute.

To avoid any possible misapprehension the Council declare that the last election of Fellows under the existing system will be on the 3rd December 1906.

In view of the requisitions for a poll the Council think it right that members should be reminded of the above facts; and as one adverse vote in four excludes, they desire to direct the attention of members to the gravity of their responsibility when they fill up their voting papers.

By order of the Council:

ALEXANDER GRAHAM, *Hon. Secretary.*

W. J. LOCKE, *Secretary.*

Proposed Site for new Institute Premises.

Mr. Leonard Stokes, *Vice-President*, who in the absence of the President through indisposition was Chairman of the Meeting of the 19th inst., in bringing the proceedings to a close referred to the Special General Meeting which had been summoned for Tuesday, the 20th, when the following Resolution was to be moved on behalf of the Council:—

"That the Institute do purchase the freehold site between Nos. 11 and 13 Portland Place, London, at the price of £10,500, and do erect thereon a building to include the Offices and Hall of the Institute at a total cost including the purchase of the said site and for the erection of the said building. And that the Council be authorised to raise by the sale of Stock belonging to the Institute and by Mortgage of the said site and building on terms to be approved by the Council such money not exceeding in the aggregate the sum of £53,000 as may be necessary for the purpose of the purchase of the site and the erection of the building."

Mr. Stokes stated that certain considerations had arisen with regard to questions of ancient light and other matters which would necessitate the Council's further deliberation of the scheme. The Council had therefore determined at their meeting that afternoon to adjourn the Meeting. As, however, there was no time to issue notice of adjournment in the usual way, the Meeting would be held, but a motion for adjournment only would be brought forward.

The notice thus verbally given prevented the attendance of all but a very few members who were ignorant of the altered arrangements. The Chairman (Mr. Leonard Stokes), the Hon. Secretary,

and a few members of Council were present; but as the quorum required by the by-law was not constituted by half-past eight, the Meeting fell through altogether.

The Registration Sub-Committee: Statement.

The Registration Sub-Committee, consisting of the President, Sir Aston Webb, R.A., Mr. Edwin T. Hall, Mr. T. E. Collcutt, Mr. John Slater, Mr. J. S. Gibson, Mr. A. W. S. Cross, Mr. W. H. Seth-Smith, and Mr. George Hubbard, and appointed by the Registration Committee "to take evidence for and against the principle of Registration and to suggest the course of procedure to be adopted at the General Meeting when the present scheme of Registration comes up for discussion," desire to state for the information of members that they have held twelve meetings and taken the *vice voce* evidence of twenty-one architects practising in London and the provinces, a verbatim report of which has been preserved, and they hope soon to be in a position to report to the Registration Committee.

Greenock (Cartsburn School) Competition.

The Secretary has been in correspondence with the promoters of this competition, the Greenock Burgh School Board, respecting the rate of the architect's commission for carrying out the work—stated in the conditions to be 8½ per cent. As the Board decline to increase the commission, members of the Institute are requested to refrain from taking part in the competition.

Rural Building By-laws.

In the Report of the Rural Building By-laws Committee, read recently before the Central and Associated Chambers of Agriculture, the Committee stated that the admitted hardships which occurred at the present time were due to the fact that some local authorities who had adopted the by-laws of 1877 had, either through a misunderstanding of their powers neglected, or from the mixed character of their district found it difficult, to avail themselves of the 1901 by-laws. The authorities working under the 1877 by-laws had no option but to enforce vexatious restrictions, and the fault lay not so much with the local authorities as with the by-laws with which they had saddled themselves. Out of 668 rural authorities there were seventeen whose by-laws were not based on any model series, and were made before the issue of the first model in 1877. There were 283 who had adopted the 1877 by-laws, and 138 working under those of 1901, whilst there were still 246 who had adopted no by-laws at all. In the opinion of the Committee that was not a desirable state of things. They could see no reason why the whole country should not be administered under one uniform system, provided such a system were made sufficiently

elastic. To encourage the erection of cheap and suitable dwellings for agricultural labourers, and at the same time to protect communities which were gathered together in comparatively small areas of land, they required a great deal of elasticity, a quality not to be found in the existing by-laws. No possible readjustment, either by amending Acts or by administrative powers, could ever place the matter on a permanently satisfactory footing. An entirely new building code was necessary. The Committee therefore suggested that a Royal Commission or Departmental Committee should be appointed to inquire into and report on the subject. This body might consist of an official from the Board of Agriculture and the Local Government Board, and representatives of the Royal Institute of British Architects, Institution of Civil Engineers, Surveyors' Institution, Central Chamber of Agriculture, Land Agents' Society, and the Rural District Councils' Association. The Commission should be directed to frame one comprehensive code of by-laws, so as to make them equally and automatically applicable to the following classes of buildings: (1) Isolated buildings, (2) buildings partly isolated, (3) buildings in villages, and (4) buildings in towns. Special powers in a new building code should be given to local authorities with reference to exemption, and the principle of a Court of Appeal, such as was to be found in the London Building Act, should also be embodied.

Greek and Roman Sculpture.

An interesting lecture on "The Development of Sculpture in Greece and Rome" was delivered by Mrs. E. Burton Brown at the London Institution on the 5th inst. The lecturer dealt with the development of the spirit of Greek art, and touched on that of Rome, illustrating the general principles on which one system and style of art grew into another. The characteristic of Greek art, she said, was generally described as being ideality, and that of Roman art of realism, and these words were right if one understood what they meant; but they each raised so many interpretations that one had to be careful about them. What it really came to was that the Greek artist was a great creator, and the Roman artist was not. The Greek artist never sat himself down before a single man or woman's form, or before any scene or in the front of people with the intention of copying or imitating them. That to him was not the nature of art at all. He was a creator and an originator, and he was always working from within upwards, and he made a new thing every time he set out to make a statue or relief. He earnestly watched the moving figures of men and women in order that he might know what attitudes and what beautiful lines each one of them took, and then he made something which was more beautiful than what he had actually seen. If one did not do that it was difficult to say

what was the use of having art at all. As Whistler put it: "All the elements of beauty are already existent in the world outside; the artist is born to select and choose." Greek art was ideal, therefore, because it dealt with ideals, and strove to create types, and was not merely a copy of existing forms. Roman art was exactly the opposite to that. The Roman was a great maker of history, but he was never a great artist, and perhaps the two hardly ever went together. The Roman was content to imitate actual forms; to make a speaking likeness of the people he saw. In the difference between the two lay the whole difference between two opposite ways of looking at art. They saw in the very beginning, when the Greeks had bad tools and hard stone, and no knowledge of anatomy, and the greatest difficulty in mastering their materials, how they were then striving to make something that, of their own inherent consciousness, was really beautiful. In the period after the Persian wars they began to make very beautiful but still rather stiff and broad, solemn, strong figures; and the fifth century was one when the ideal was strength and dignity. In the fourth century they had greater command, and then tools and materials and the far greater knowledge of anatomy enabled them to make statues with far more effect in repose and freer in line, and, as it were, less dignified, less solemn, and less finer perhaps. They were equally ideal, but the ideal was a new one, and was an ideal of delicate beauty and grace rather than of majesty and solemnity. Then they got to what were called Hellenistic times, and there they found that the old Greek model was changed, and the old Greek style was modified by various infusions of different foreign ideas. Lastly, they came to Rome itself, where the Roman sculptors, living in a city crowded with splendid masterpieces of the old Greek days, longed to imitate Greek forms, but were themselves always filled, more or less, with their own realistic tendencies, so that Roman art was Hellenistic in a sense.

Competitions in America.

At last month's convention of the American Institute of Architects, the following suggestions were brought forward by the special committee dealing with the subject of competitions:—

1. The object of the competition should be to secure the most skilled architect as shown by the schemes which he presents.
2. An architectural adviser should draw up the programme, and advise the owner in relation to technical questions in making the programme, selecting the scheme and the architect.
3. The amount to be expended on the work should be sufficient within a reasonable margin to erect a structure of the character and size indicated in the programme, or there should be no cost price stipulated.
4. The programme should be in the form of a contract which guarantees the employment of the successful com-

petitor to make the drawings for and supervise the work of the proposed structure at a proper remuneration.

5. All competitors who have notified the owners of their entering the competition should meet and, after discussion with the owner, agree upon conditions which will be binding upon the owner and the competitors.

6. Payment of competitors in a limited competition should be guaranteed sufficient to cover the preparation of the drawings demanded, and prizes or premiums in open competitions to cover such expense for at least the five best schemes.

7. The minimum amount of drawings should be required to express the design and arrangement.

The Liverpool Architectural Society and Liverpool Improvements.

Following the discussion on the Paper by Mr. T. T. Rees [F.] on "Architects and City Improvements," read before the Liverpool Architectural Society, the following resolution was adopted:—"Having regard to the commercial importance and prosperity of the city of Liverpool, this members' meeting of the Liverpool Architectural Society considers the appearance of the city should be worthy of such commercial greatness, and should express its own dignity. This meeting realises that this is only to be done by the combined efforts of all our worthy citizens. It therefore suggests to the Council of this city the advisability of having a committee to deliberate as to the best means of obtaining that end."

The Concrete Age.

In view of the increasing interest in the uses of concrete for building and engineering work, a journal is to be brought out bi-monthly under the title of *Concrete and Constructional Engineering*. The first number will appear in March with the following articles among the contents:—"The Advent of the Concrete Age," by Lieut.-Colonel J. Winn, R.E.; "Steel Skeleton Construction and the London Building Act," by W. Noble Twelvetrees, M.Inst.M.E.; "Reinforced Concrete Foundations of Buildings," by Charles F. Marsh, M.Inst.C.E.; "The Setting of Portland Cement" (Serial): Article I., by Cecil H. Desch, D.Sc., Ph.D.; "The Preservation of Iron and Steel against Corrosion," by B. H. Thwaite, C.E.; "Safeguards against Freezing in Concrete Construction"; "New Uses for Concrete: Railway Sleepers"; "Tests with Concrete: Adhesion of Steel; Fire Resistance." The new venture is to be about the size page of the *Nineteenth Century*, and will be published at a shilling.

Records of Roman Remains: Comm. Boni's Appeal.

Mr. John Hebb requests us to state that the translation of the appeal by Comm. Giacomo Boni printed in the *JOURNAL* of the 10th February (pp. 195-6) was not made by him, but by Mrs. Herringham, the wife of Dr. Herringham, of Wimpole, and a contributor to the *Burlington Magazine* and other art periodicals of the day.

JOHN POLLARD SEDDON.

Born 10th September 1827; died 1st February 1906.

I did not know John P. Seddon till 1880, when I entered his office in Queen Anne's Gate, Westminster, as an improver, so that I cannot speak of him at the time when his chief designs were made, notably, the Castle Hotel (afterwards The College, Aberystwith) and the competition design for the Law Courts and for the Government buildings in Whitehall; but having known him then, and knowing these designs, it is not difficult to imagine the spirit and enthusiasm that conceived them, and the way in which he worked into them the best part of himself. His enthusiasm for his art was immense, sometimes perhaps carrying him away from the mere utilities of life, but never allowing him to lose his sense of artistic fitness in what he did.

Articled to Professor Donaldson in 1847, he was thus brought up in a strictly classic atmosphere, though his very earliest work shows that his sympathies were from the first with the Gothic revival. Nevertheless, the breadth of treatment which his best work shows is probably accounted for to some extent at least by this early classic training; as may well be also the columnar form of Gothic which he made his own—an absolutely original form, though owing something also to his love and study of Venetian Gothic, but as distinct from the one as from the other in minor details and sentiment. He was, in fact, far the most original of the Gothic revivalists; for though among the strongest in his love for and belief in the revival, he was always a modern rather than a medievalist, even though he himself might not altogether have been willing to admit it; and in his work almost alone among the early revivalists was it impossible to trace the origin of the detail to any particular medieval style or building.

In this respect he was certainly before his time. While others were content to produce copies more or less of ancient detail, he went deeper and sought to look behind at the reasons that prompted medieval form, and to produce what a medieval designer would have done if living in the seventeenth century with the knowledge, historical and constructional, then available.

Like many others of the revivalists, he was a facile draughtsman and rapid worker, not only in his architectural drawings, but in his water-colour drawings of architecture and scenery. Some of his early drawings, more especially those of Venice, which were carried to a high state of finish, were extremely beautiful—full of atmosphere and colour.

Of all his designs, probably that of the Law Courts was really the finest. Never thoroughly understood, it would have been better appreciated now than it was at the time of its production.

It was in many respects evolved from his Aberystwith design, but was broader in treatment without losing any of the richness of detail of his largest executed work. Had it been carried out it would certainly have been the most original building in modern London, and I think I may say the finest, from a spectacular point of view at least. His notion of a great record tower was fine in the extreme, and its vast simple lines, combined with the scale on which the whole design was conceived, would have made London the richer. It would have been better for the architecture of our towns had his ideas of breadth and unity of treatment been more general.

Cardiff.

J. COATES CARTER.

REVIEWS.

SOME ARCHITECTS AND THEIR WORKS.

Studies in Architecture. By Reginald Blomfield, A.R.A., F.S.A., M.A.Oxon., Author of "A History of Renaissance Architecture in England." 8vo. Lond. 1905. Price 10s. net. [Messrs. Macmillan & Co.]

The resuscitation of these half-dozen slightly connected essays, which Mr. Blomfield has collected from the *Quarterly Review* and the *Architectural Review*, and entitled "Studies in Architecture," results in an informing book which may be perused with profit by any intelligent reader, but especially by the professed student of architecture. Excepting the first essay, it is a book mainly about architects—certain architects as personalities seen through their architecture and their writings. To find the man in his architecture seems, according to the author, to be the problem for the critic. "After all," he says, "the vital interest of architecture is the human interest." To this point he addresses himself, aiming at recalling the fact that "architecture is a difficult art . . . not a mystery, but an expression of the human intelligence . . . capable of the same critical analysis as any other imaginative and intellectual effort." For shortcomings in this endeavour he pleads "the limited opportunity possible to a writer whose principal work lies elsewhere."

Amongst the fifty illustrations are ten reproductions of sketches from Mr. Blomfield's own pencil, delightful in drawing and masterly in their handling, but, unfortunately, not all equally happy in surviving the ordeal of process reproduction. Some twenty more of the plates are from photographs, most of them excellent for their purpose. As an architect, treating of architecture, the author is somewhat chary of plans—and still more so of sections for illustrating his subject. Sketches and general views, however excellent and however well they may appear to suffice for the sympathetic

amateur, are not quite what we expect a specialist to rely on to the extent that Mr. Blomfield does for elucidating his ideas in matters architectural. There are illustrations given that could be spared to afford room for plans and sections. The use of explanatory scale-diagrams is so peculiarly the architect's means of laying open for inspection and investigation the work of architects, so as to be read by students of architecture, that one is tempted to wish the author had adopted it more freely in this case—if only by way of example—and to regret that he had not more obviously and directly addressed himself to professed students of architecture. So far as the general reader is concerned, this is but one more added to the class of interesting but non-indispensable books on architecture. Addressed with more serious intent to architects, as experts in building-work, it might be put into a higher category altogether; for it contains lessons that need to be driven home to architects in particular, and can be rightly enforced only by the authority of an architect.

The first essay, entitled "Byzantine or Lombardy," opens with the remark that "modern architecture seems incapable of progress except in a circle." Having exhausted our classical tradition and got over our devotion to Gothic architecture, we now see men transferring their studies to the obscure period of post-Roman architecture "which preceded the art of mediæval Europe." Each of the various Italian writers on this subject seems to have been directing his best efforts to demolishing the work of his predecessors, besides being too fond of theorising without consideration of the buildings themselves, summing up, so to speak, before mastering the evidence; a failing, one might observe, not rigidly confined to Italian book-writers on architectural history. One recent writer, Signor Rivoira, with patriotic zeal propounds the theory that Western architecture of the eleventh and twelfth centuries (generally known as Romanesque) is descended in unbroken continuity, through the work of Italians—presumably Lombards—at Ravenna in the fifth century A.D., from the architects and builders of Imperial Rome; that it was in fact the creation of Italy, not of Byzantium. As for Byzantine-looking features and details found at Ravenna, these may have been executed by Greeks working for local designers and builders; a theory which appears to Mr. Blomfield "entirely to miss the very real and far-reaching difference between Byzantine architecture and Romanesque, a diversity in kind that there is between S. Vitale and S. Apollinare Nuovo." He finds in Signor Rivoira's work "too little attention given to plan and construction. It is here that the hand of the amateur is apparent; for architecture is a difficult subject, and this aspect of it can only be handled by architects." And, further, he says: "To my mind the vital distinction between styles and periods in architecture is to be found, not so much in details

as in planning and construction, in the underlying thought. We do not find any such principle of classification laid down in Signor Rivoira's work. In his anxiety to find the origin of mediæval architecture in Italy, he claims a single origin for the basilica plan of the Western church and the totally different plan of the domed church of the East." "The remains of the classical architecture of Rome were the common property of the heirs of the Roman Empire. What was not common property was the tradition of constructive skill which the Byzantines alone seem to have preserved." "He has yielded to the temptation to magnify the modest achievements of the Italian and of the Lombard by claiming for them some share in the discovery of that great constructional system, devised by the ability of the Greeks, of which St. Sophia is the most magnificent expression." "It is one of the tragedies of the history of architecture that the great achievement was never followed up, and that the architecture of Western Europe, with the exception of a few isolated efforts, proceeded along the lower lines laid down by the Lombard builders." "Roman architecture in the West died with the Roman Empire; but in the East the legacy of Rome passed into the hands of men capable of developing it to the utmost—men who did, in fact, evolve from it a new type of architecture, probably the most truly original that the world has ever seen."

The author notices, as a valuable contribution to our knowledge of Byzantine art, the work on St. Sophia, by Messrs. Lethaby and Swainson. A brief account of this building follows; and here, at least, one would think, some light might surely have been thrown by means of a scale-plan and section to supplement Mr. Fulton's two perspective sketches.

Another great church built by Justinian at Constantinople was that of the Holy Apostles, now destroyed. From it are derived the five-domed churches of St. Mark at Venice and St. Front at Périgueux. S. Vitale, Ravenna, was probably a Byzantine copy, from a church at Antioch, of Constantine's, according to Mr. Blomfield. One has been accustomed to hear of its near relationship to Justinian's church of SS. Sergius and Bacchus at Constantinople. As good examples of later developments in Byzantine architecture the churches of the monastery of St. Luke of Stiris are quoted, illustrated in the fine monograph by Messrs. Schultz and Barnsley.

"The real achievement of these Byzantine Greeks," says Mr. Blomfield, "was not in their decorative detail, beautiful though this was, but in their mastery of constructional form, their power of handling great masses of building—a power inherited from the Roman builders, yet transported by the finesse and subtlety of Greek genius into the fairyland of poetry." "The architectural forms used are actually the constructive forms. There is no

concealment behind Orders and other devices of revived classicism, none of that torturing of stone . . . which makes a great deal of later Gothic ridiculous." "Even as regards Roman architecture itself there still appear to be lingering misconceptions. It has been too much the habit to assume that Roman architecture was merely a tame reproduction of Greek. . . . This does not go to the root of the matter. The Roman was a born architect, in the sense of what is most vital in architecture, for he was a born constructor; and it was out of this strong constructive sense that a new architecture was developed—an architecture that eliminated ornamental forms, and worked out an abstract system of design from the materials to hand." Thus does our author get at the root of the matter. "Good architecture," he adds, "is not arrived at by violent efforts to be original, nor by the repudiation of knowledge. If architecture is again to become an art with assured vitality, it must dispense with the unessential, and address itself to the task of finding the absolutely best expression for the constructive necessities of a building. This is the lesson to be learnt from Justinian's architects."

This first essay, going as it does into matters which lie behind so much that was yet to come in the story of architecture, East and West, seems to exceed in interest and real importance all the remaining five essays put together, notwithstanding the more strictly personal interest in them, which counts for so much with Mr. Blomfield. To come down directly to Andrea Palladio, Philibert de l'Orme, George Dance, jun., and the rest is just a little damping, at first. Of the first-named the author says: "What the student wants to know is Palladio's place among architects, how he came to occupy the position in history that he does, what were the sources from which he drew his inspiration, and the genesis of his individual methods of thought and design." Of architects generally: "One wants to know and understand their antecedents, the labours of their predecessors which became their heritage, the intellectual atmosphere of the time which made them possible at all; and this is, in fact, the function of historical criticism." Calling attention to the historical untrustworthiness of Palladio's drawings of Roman antiquities, Mr. Blomfield remarks that "he was an exceedingly skilful architectural draughtsman," and "he gratified the taste of the time by restorations of the buildings he represented. . . . One would willingly exchange the whole set of Palladio's restored antiquities for a dozen trustworthy measured drawings of the buildings as they were when he saw them." "In England, at any rate, the work of this architect should be introduced to students with very great care and all sorts of limitations, for at recurring intervals Palladio has been a sort of Old Man of the Sea to the art of architecture. There is assuredly a good deal of

chance in reputations. . . . Palladio was certainly happy in his opportunity. His fame rests partly on his writings and partly on his architecture." In his book "there is a large parade of learning . . . and then there is that uncomfortable habit of advertisement." "With the touch of pedantry that suited the times and invested his writings with a fallacious air of scholarship, he was the very man to summarise and classify, and to save future generations of architects the labour of thinking for themselves. After the days of the intellectual giants came the schoolmaster to put everything in order."*

Unfortunately Inigo Jones "fell headlong into the arms of this teacher." Would that he "could only have come under the influence of Peruzzi or Sanmichele instead." "Fortunately Wren did break away from Palladianism"; and a dead set was made against him in consequence by the younger generation, abetted by Lord Burlington, the amateur. Wren "became the great architect he did, because he was in fact a great constructor."

In such manner does the author bring things home to us, investing his story with that personal interest which touches us closely.

"The Architect of Newgate," Geo. Dance the younger, is described as being an artist of some natural gifts, highly trained and accomplished—not a genius, elected early in life one of the original forty Royal Academicians. Nevertheless he produced a masterpiece, afterwards lapsing into the mere practitioner. In designing Newgate Prison "he had to get some architectural quality out of a gigantic wall . . . he attacked his problem squarely . . . and produced what was perhaps the finest abstract expression of wall-surface to be found in Western architecture." "So much was done with so little." His pupil, Soane, having to design another place of safe custody, viz. the Bank of England, sought, by a curious inversion of ideas, to obtain his effect "by devices that included a number of sham door and window openings; in other words, by means of the very architectural feature which the conditions of his problem forbade him to use." Mr. Blomfield can only offer, as a reasonable explanation of Dance's fine design, the theory that he had come, when travelling in Italy, under the spell and personal influence of Piranesi, whose etchings of architecture, including the seventeen extraordinary "Carceri" plates, had been published only a few years before. "With all their traces of insanity, these seventeen drawings struck a note undreamt of hitherto, one that the great draughtsmen of the Renaissance, with all their scholarship and passion for the antique, had missed; for it was as if Piranesi had thought himself back into the spirit of the

* The race of peasants in architecture did not die out with Palladio. Probably to them and their writings we in our times have largely owed the rise and fall of our so-called Gothic Revival.

builders of the baths and aqueducts that he drew, and had penetrated to the Roman's secret, that the highest quality of architecture is found in mighty building."

The three remaining essays treat of the art of the French Renaissance—and of some of the men who left their mark thereon—chiefly of the sixteenth century, "perhaps the most interesting period in the whole of French history." "The history of this period has yet to be written," as we might equally well say of our English architecture prior to the sixteenth century.

After noting that there is evidence of a reaction from Viollet-le-Duc's "histrionics—history on the smallest possible basis of evidence"—Mr. Blomfield continues: "The study of architecture suffers much from the want of clear definitions. We talk of the Renaissance, but the Renaissance may mean very different things." "In France, as in England, the first fifty years of the Renaissance were occupied with experiments in the details of ornament; but the difference is that, whereas in England the Italian influence disappeared at the death of Henry VIII. . . . in France the development of architecture proceeded steadily to its full maturity, with the result that, historically, France got a start of some fifty to seventy years—a lead which that country has never lost. The man who contributed most to this result was Francis I., 'un amateur du premier rang,' as M. Dimier calls him."

"Where his predecessors merely looked " in their Italian expeditions, "Francis considered and learnt. Moreover, throughout his life he had the rare advantage of the guidance of his sister, Margaret of Navarre, 'la perle des Valois,' one of the most attractive minds of the sixteenth century; . . . and perhaps it would not be too much to say that what was best in the French Renaissance was due to the sympathy and intelligence of Margaret quite as much as to the direct initiation of her brother." At Fontainebleau, which was destined to become the cradle of modern French art, he started work with the famous "Devis," or Report, of 1528, and carried it on under a succession of Italian masters, such as Il Rosso, Pellegrino, Serlio, and Primaticcio, most of them carvers and ornamentalists rather than architects, strictly speaking. On the accession of Henry II. a Frenchman, Philibert de l'Orme, appeared on the scene as "architecte du Roy." "De l'Orme," says the author, "was the first and most complete realisation of the modern architect in France, as distinguished from the master-mason of the middle

ages." "He in fact finally did away with the older method of building; for the happy-go-lucky practice of the master-mason he substituted the modern system of working to scale-drawings." "Modern French architecture dates from Bullant and De l'Orme." "The conception of an architect as a man who devoted his life to the design and construction of buildings, and who was only qualified to do so after serious and prolonged training, hardly existed before the middle of the sixteenth century." "It was only by slow degrees that the conception of an architect as an artist of exceptional knowledge and capacity established itself, and De l'Orme, in insisting again and again on the necessity of thorough training for an architect, had very good reason for doing so in the vague opinion and incompetent practice of his time." There is something about this contention of De l'Orme which sounds most curiously up to date. Also very much to the point is the counsel he offers, in his great work on architecture, published in 1567, "as the result of more than thirty-five years' experience." "He has noticed the folly of people who, instead of consulting an architect, go to a carpenter, or painter, or notary, and spend the rest of their time in finding out their mistake; whereas the right thing to do is to call in your architect, give him a free hand, and not insist on his copying old buildings. The architect on his part is to be learned in mathematics, philosophy, and history, and is to be a staid, sensible, temperate man of affairs . . . and is to be careful in the selection of his clients." Truly a golden maxim!

WALTER MILLARD.

MINUTES. VIII.

At the Eighth General Meeting (Ordinary) of the Session 1905-06 held Monday, 19th February 1906, at 8 p.m.—Present: Mr. Leonard Stokes, *Vice-President*, in the Chair, 36 Fellows (including 11 members of the Council), 38 Associates (including 2 members of the Council), 1 Hon. Associate, and several visitors—the Minutes of the meeting held Monday, 5th February 1906 [p. 199], were taken and read and signed as correct.

The following members attending for the first time since their election were formally admitted by the Chairman—viz. Francis Albert Whitewell, *Fellow*, and Charles Joseph Thompson, *Associate*.

A Paper on FURNITURE having been read by Mr. E. Guy Dawber [F.] and illustrated by lantern slides, the subject was discussed, and a vote of thanks, moved by Mr. Percy Macquoid, R.I., and seconded by Mr. J. D. Crace [H.A.], was passed to Mr. Dawber by acclamation.

Announcements re the Special General Meeting summoned for the 20th February and the Special and Business Meetings of the 5th March having been made from the Chair, the proceedings closed, and the Meeting separated at 10 p.m.

* So, too, we talk, without definition, of "Romanesque" and "Gothic," of "Early English," "Decorated," or "Perpendicular," and other puerilities in nomenclature, mainly of nineteenth-century concoction, employing these adjectives, as is now the fashion, to serve as substantives.



RECONSTRUCTION OF THE BASILICA JULIA, BY SIGNORE BATTENCHI.

From "Architectural Results of the Latest Excavations in the Forum at Rome," by Professor Lanciani (*JOURNAL R.I.B.A.* 24th November 1900).

ROME IN THE AUGUSTAN AGE.

By A. W. S. CROSS, M.A. Cantab. [*F.*]

Read before the Northern Architectural Association, 31st January 1906.

IN the following crude attempt to describe the surroundings of Roman life in the first two or three hundred years of our era I have drawn freely upon the vivid descriptions of social manners and customs to be gleaned from the immortal works of the Augustan poet Horace and of the famous satirist Juvenal, who flourished about a hundred years later. It will therefore be apparent that I use the term "Augustan age" in its broadest sense, as referring, not only to events contemporaneous with the reign of the great emperor, but also to those of the many years following his death during which his life's work and teaching were still exercising their beneficent influence for the advancement of art, literature, and science.

In the early days of the empire Rome ceased to be the mere capital of an Italian State, and became the metropolis of the world. It was at once the goal of adventurers of various nationalities who aspired to raise their fortunes, and of criminals of all classes desirous of escaping from the hands of justice. Under Augustus many years of peace followed centuries of desperate conflict, and, as the result of final victory, the treasures of Carthage, Syria, Gaul, and other conquered lands flowed freely into Rome.

Unlike their republican forefathers, who held gold and luxury in contempt, the consuls and members of the civil administration displayed the most shameful cupidity, and threw themselves upon the conquered provinces like birds of prey: and owing to their rapacity the wealth of Rome became proverbial. Magnificent baths, immense gardens, palatial villas, increased in

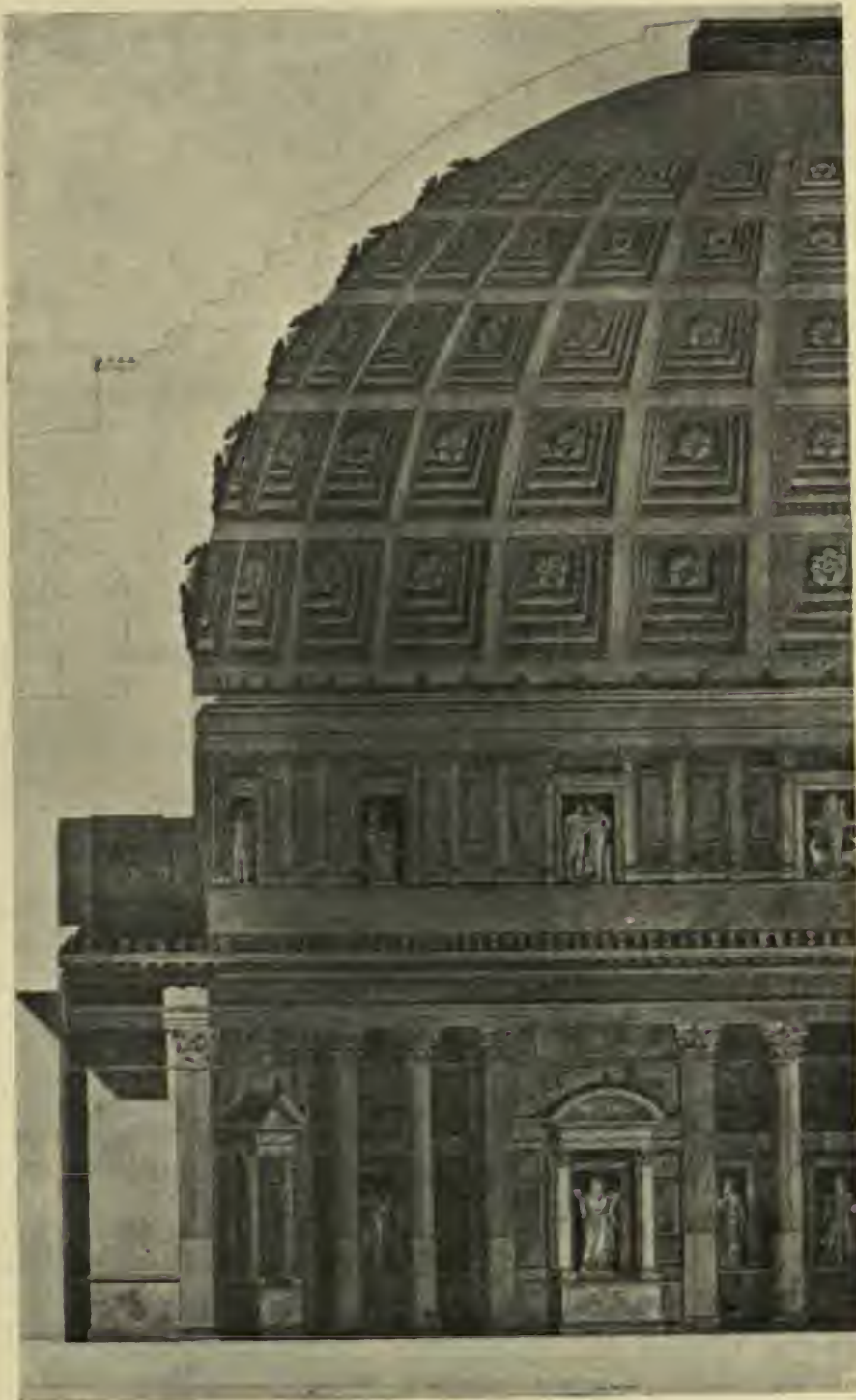
number, and the city was flooded by a tide of Oriental luxury which all parts of the community quickly learned to appreciate.

The protracted nature of her foreign wars had given to Rome a vast number of slaves, who were employed as domestic servants, as labourers, and as artisans. In Rome their duties were diversified and multiplied by the growing luxury and caprices of the rich; the possession of many slaves meant the possession of a very productive capital. Not only were the slaves the blacksmiths, shoemakers, bakers, &c., of the city, and worked in these capacities either for their masters alone, or for the public for the masters' profit, but many were also doctors, actors, bankers, writers, and men of business, and as such were often a source of considerable wealth to their owners.

The increase of wealth in the hands of the few was followed by the apportionment of the land into vast estates (*latifundia*), which were generally held by wealthy slave-owners whose servants replaced the free men who had hitherto gained a subsistence as farm owners or as farm labourers. Driven from the country by the advent of slave labour, the rustic population flocked into Rome and other large towns, where the allurements of the public free distribution of corn attracted the idle and necessitous from all parts of Italy. These subsidies, heavily as they pressed upon the Government treasury, were insufficient for the maintenance of the impoverished families, to whom—so keen was the competition of the slaves in industrial occupations—nothing but manual labour was left. The prolonged foreign wars had exhausted the supply of men fitted for military service and seriously modified the social organisation of the city, which was constantly acquiring many new citizens; whilst the older ones, in whom lingered the manly virtues and traditions of the ancient race, were gradually disappearing. Every day Rome lost some of these, her most valuable citizens, left on the field of battle in remote provinces of her vast empire; and the survivors had been retained so long under arms by the duration of distant expeditions that on their return to their native city they found they had lost their taste for work. Those who were fortunate enough to return rich with the spoils of victory passed into the daily increasing class of wealthy citizens, whilst those who had squandered their share of the pillage augmented the ranks of the proletarians. In short there was no longer a nobility, but merely a rich class—a *plutocracy* had succeeded an *aristocracy*—and there was no middle class interposing between the two immense hordes of rich and poor which now formed the population of the city. Rome indeed had reached a state of society that had ruined the Greek republic, and the inevitable struggle between the rich and the poor, which could only end with the establishment of a tyranny, commenced.

The constant and free communication with Greece consequent upon the Roman conquest had filled Rome with Greek artists, philosophers, sophists, and rhetoricians, and at this period "her ruthless conqueror Greece has overcome," and Greek forms and Greek ideas, including the introduction of Hellenic deities in place of the ancient national gods, were as instrumental in transforming and developing Latin literature as were the luxury and effeminacy of the Greeks in undermining the old stern Roman habits of business and the discharge of public duties.

Octavius, the nephew of Julius Cæsar, assumed a title never before given to man—that of Augustus. He was ostensibly the first citizen of the republic; in reality he was the absolute king of the Roman world; but he was studiously careful not to appear to be so, and warned, by the untimely death of the great Julius, of the grave danger he would incur by assuming the kingly diadem, he wisely determined to conceal his real autocratic power by an unostentatious mode of life. His house on the Palatine was smaller and far less luxurious than those of many of the citizens. He walked through the streets of the city either



THE PANTHEON.
AS RESTORED BY M. ACHILLE LACËRE (1813).

unattended or with no more than the ordinary retinue; and throughout his life he was content to possess the power without displaying the pride and pomp of royalty. The ancient liberty, so dear to the real Roman citizen, appeared to be still in existence; but although the Senate and the Comitia met as of yore and discharged their public duties, yet their authority had been taken from them and was now vested in Augustus, who was at once consul, pro-consul, tribune, censor, pontiff, and perpetual commander-in-chief of the army. Unlike the Greeks, the Romans had never been accustomed to deify man, but religion also lent its support to the imperial power, as Augustus while living was honoured in the provinces as a god, and the cities of Gaul erected a temple to him. After his death temples, priests, and holy observances were decreed in honour of the divine Augustus, and from this time the apotheosis of deceased emperors became general.

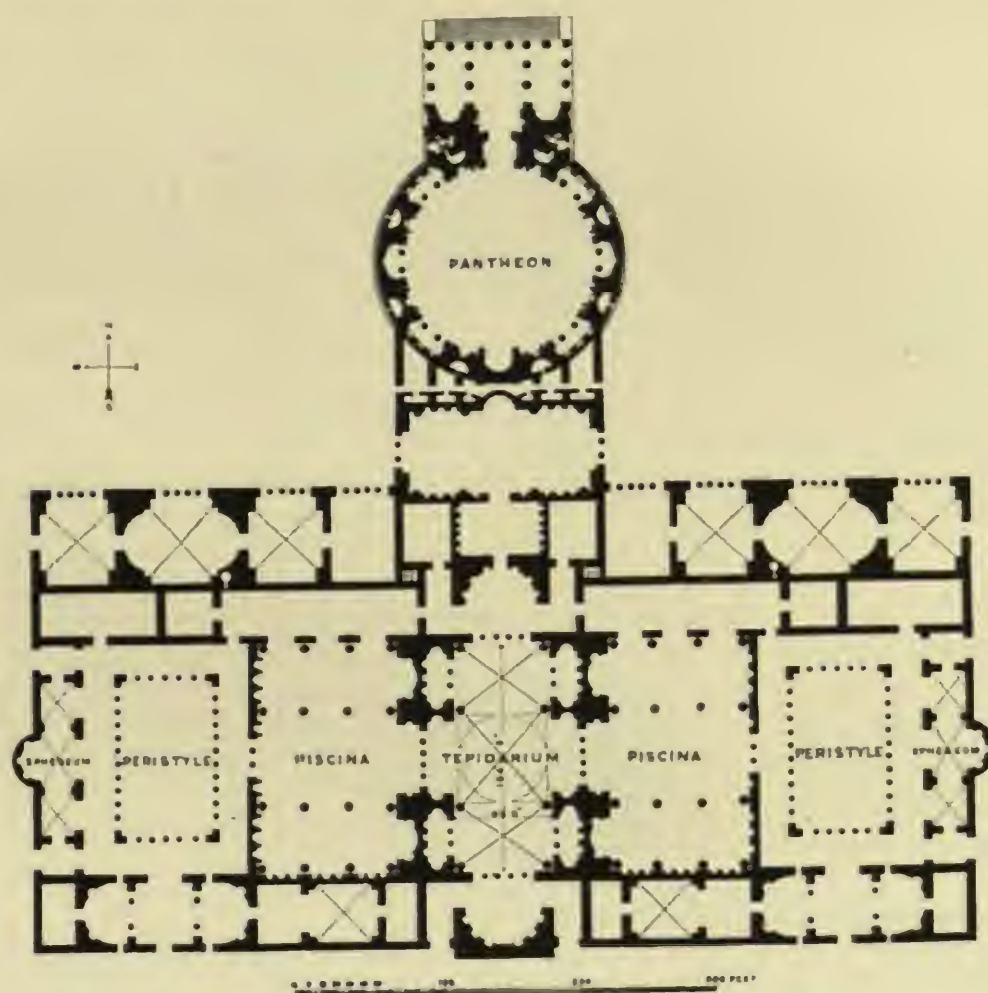
It is one of the greatest of the many charms of the poet Horace that he takes us into the very heart of the life of Rome under Augustus. With him we lounge into the spacious meadow known as the Campus Martius to find the gilded youth of the day bewitching the Roman ladies with their daring horsemanship; or we wander through the narrow city streets where we run the risk of being crushed by some huge piece of masonry in the act of being swung into position by a crane, or of being jammed into a doorway by a cavalcade of builders' waggons laden with stone or barks of timber, and blocking the street to everyone's discomfort. Freed at length we betake ourselves to the Via Appia, the fashionable rendezvous of the chariots of beauty and fashion. Before we reach home we pass various street loiterers and beggars, one of whom drops down before us in a well-simulated fit of epilepsy. Finally in retreating to our lodgings on the third floor of one of the lofty blocks of city dwellings, we encounter on the staircase some half-tipsy artisan or slave who is descending from his attic in search of the nearest wineshop in which to purchase another cup of cheap fiery wine.

These sketches of the life and manners of Rome as depicted by Horace might be infinitely extended, and Sir Theodore Martin has well said that "a ramble in the streets of the Rome of to-day is fuller of vivid interest to a man who has the pages of Horace at his fingers' ends than it can possibly be to any other person. Horace is so associated with all the localities that one would almost think it the most natural thing in the world to come upon him at any turning. His old familiar haunts rise up about us out of the dust of centuries. We see a short thick-set man come sauntering along, 'more fat than bard beseems'; as he passes, lost in reverie, many turn round to look at him. Some point him out to their companions, and by what they say we learn that this is Horace, the favourite of the great art patron Mæcenas, the frequent visitor at the unpretentious mansion of Augustus, the self-made man and personal friend of Virgil and Varius, and of the most eminent men in Rome."

Juvenal, who published his well known satires, in which he unsparingly lashes the vices and follies of a corrupt age, a few years after the death of Domitian (A.D. 96), gives us a very vivid description of the Rome of his day, in which both the comforts and discomforts of life in the capital are minutely described. Of the two divisions of the population the upper class consisted of the personal friends of the Emperor and of the retinue of the Court. The lower class was still the *plebs Romana*, although the title did not convey the honour and distinction it had held under the republic, as the ordinary citizen had now neither power nor influence in the world of politics, and, according to our author, cared for nothing but free food and free amusements.*

* *Nam qui dabat olim
Imperium, Fasces, Legiones, omnia, nunc se
Continet, atque duas tantum res anxius optat,
Panem et Circenses.*—Saturn X.

The slopes and summits of the famous hills of Rome were covered with the sumptuous palaces and mansions of the wealthy citizens, who, in the seclusion of their large gardens and parks, were not affected by the noise and turmoil of the busy city, but passed their lives amidst the most pleasant surroundings and conditions. The first two hours of the morning were devoted to a kind of reception at which their humble friends and dependents—clients, as they were called—attended to receive the *sportula*, or daily dole of food, which it was customary



PLAN OF THE THERMÆ OF AGRIFFA.
(Showing the Pantheon as part of the building.)

From Professor Atchison's Paper "The Roman Thermae" [TRANSACTIONS R.I.B.A. 1888-89].

for the wealthy patron to bestow upon any client who chose to apply for it. Originally the *sportula* was a light meal, to which all his clients were invited, provided by the patron in the *atrium* of his house; but afterwards each client received a portion of food or a gift of a small sum of money instead of a meal. In later times it was therefore only the chosen few who had the honour of taking their meal with the master of the house, and then only by special invitation. The shabby treatment meted out by the wealthy to the poor is one

of Juvenal's chief grievances, and he contrasts the custom of his day with that which formerly prevailed :

" Then plain and open was the cheerful feast,
And every client was a bidden guest ;
Now at the gate a paltry largess lies,
And eager hands and tongues dispute the prize.
But first, lest some false claimant should be found,
The wary steward takes his anxious round,
And prizes in every face."

The ceremony of the *sportula* over, the wealthy citizen, if a senator, would make his way to the Senate-house or to the Forum, there to plead the cause of any client who might require his assistance. At eleven o'clock he would return home, probably followed by some of his clients, who dogged his footsteps in the vain hope of receiving an invitation to the evening meal. The next hour—sacred to the midday siesta—saw the city wrapped in unbroken silence ; but at noon Rome awoke again to idleness and pleasure. Poets and historians selected this hour—provided they could manage to secure an audience—to declaim their works in public, in the hope of founding a reputation or of attracting the attention of some wealthy man ; whilst others, wiser in their generation, waited in the public baths until they were thronged by bathers before proceeding to weary their helpless victims with their recitations and lectures.

Perhaps our citizen might elect to visit the circus to witness the games of the amphitheatre, in which, as Tacitus, writing of the reign of Nero, points out, " gladiatorial shows were exhibited on a scale no less magnificent than those of previous years ; but many women of noble birth and many senators disgraced themselves by appearing in the arena." Or the citizen might adjourn to the theatre to view the " hired patricians' low buffoonery," although the fact that Nero himself, when emperor, appeared on the public stage could not reconcile the Romans to such a gross breach of ancient custom. In their view no free-born citizen should degrade himself and his city by taking part in public theatrical entertainments. According to ancient Roman custom the actor's profession was one which was always restricted to slaves and foreigners—for choice to Greeks, of whom Juvenal declares " the whole breed are actors."

From one or another public spectacle the citizen would proceed to the baths, which, according to Charles Kingsley, " Roman tyranny, wiser in its generation than modern liberty, provided so liberally for its victims." Entering one of the *thermæ* he would be provided at the expense of the State with baths of hot and cold water placed in magnificent apartments resplendent with marble and gilding. The baths proper were inclosed with spacious courts, where he might join in a game of bowls, or take more violent exercise as a preparation for his ablutions. An hour or two might be spent partly in the water and partly in listening to some poet who in stentorian tones recited his latest work, in one of the many marble-paved halls or vestibules, until, as Juvenal says, " the very columns echoed again." The baths were much frequented by the philosophers and rhetoricians of the day. Here the bearded Stoic, followed by a retinue of admirers and pupils, would prove that the Stoic was alone happy ; whilst at the same time, in another portion of the vast building, the Epicurean philosopher would be propounding the far more acceptable doctrine that true happiness consists in obtaining as much enjoyment as possible during the course of our brief existence.

The third satire of Juvenal contains such a very excellent description of everyday life in Rome, of the streets of the Subura—one of the most densely populated and squalid portions of the city—and of other parts of Rome that I have briefly quoted some of his remarks :—

" There is no room in town for an honourable career, no reward for hard work ; and



PORCELAIN VASE AND FOUNTAIN, FOUND IN ROME,
FROM THE RESTORATION OF MM. C. ROYER AND H. DESPOT.

one's property to-day is less than yesterday, and to-morrow will again lose something from its small residue.

"What am I to do at Rome? I do not know how to lie. When a book is bad I cannot praise it, and beg the loan of it. No rogue shall ever have my help, and so I go out in no governor's suite, as though I were a cripple, or useless lump with a withered hand. I will admit to you that I cannot endure a Greecised Rome; and yet, after all, what a fractional part of our foreign mendicants are true Greeks. Here is a gang bound for the Esquiline to become the inmates of great men's households, and, in the end, their masters.

"The hungry Greek, with his quick intellect, desperate effrontery, and ready tongue, knows everything: he is whom you will—critic, rhetorician, geometer, painter, trainer, prophet, rope-dancer, doctor, sorcerer. Mark how the race, so adroit in flattery, extols the foolish friend's conversation, the ill-favoured friend's features; how they compare some weakling's scraggy neck with the throat of a Hercules holding Antæus far above the ground! True, *we* may flatter just like them, but *they* are believed.

"At Rome if you produce a witness of spotless character, reference is straightway made to his income, and the value of his word is strictly measured by the cash he keeps in his coffer. How many servants does he keep? How many acres of land does he hold? The *last* inquiry made will be of character. It is hard for men to rise whose worth finds its way barred by straitened means, but at Rome they have the sorest struggle of all. How dear the meanest lodging, how dear the wages of slaves and the plainest meal; and there you blush to dine off earthenware which at a Sabine dinner table you would not regard as a disgrace.

"In Rome men dress in a showy style beyond their means, and the 'more' that we require we now and again borrow from a neighbour's coffer. The vice is universal, and every one of us lives in pretentious beggary.

"I, for my part, prefer any place to the Subura, for what spot, however miserable or lonely, would you not prefer to the terror of fires, the incessant falling of houses, and the countless other perils of this cruel Rome?

"Who fears, or ever feared, the fall of a house at cool Præneste [a favourite health resort of the Romans], but the city we live in consists largely of the flimsy props that shore it up. For thus the house agent keeps our houses from toppling over, and when he has covered an old gaping crack he bids us sleep in peace, even although a collapse be imminent. I must live in some place where fires and night alarms are unknown. Here many a patient is killed by sleeplessness, for what lodging-house gives admittance to sleep? It is a luxury of the wealthy, and this is the root of the disease. The traffic of carts in narrow winding streets and the din when a herd of cattle is shut in (by a passing vehicle) would rob a sea-calf of his sleep."

"If social duty call your rich man forth, the crowd will disperse as he is borne along, and he will speed above their heads in his big palanquin reading or writing upon the way, or even dozing inside, for a litter with closed windows promotes slumber. As I hurry by on foot I am stopped by the surging mass in front, while a great host of people following behind me presses at my back. One hits me with his elbow, a second with the hard pole of a litter, a third bangs a beam and another a jar against my head. My legs are caked with mud, and a soldier's boot-nail sticks in my toe."

"Now let us glance at other and distinct perils of the night, the height of these towering housetops from which a jug strikes your skull. Think how often cracked or broken earthenware is thrown from the windows. See with what force it dents and scores the flint pavement. You might well be deemed apathetic and careless about danger if you went out to dine without having made a will, so true it is that death lurks in every open lighted window which you pass

at night. Then hope and pray with silent agonised vows that the windows may content themselves with merely *emptying* on you the contents of the broad pans."

There was another danger which he who passed through the city by night had to encounter. As was the case in our own cities towards the close of the seventeenth and the



THE ARCH OF TITUS, ROME: DETAIL.
FROM M. CH. GIRAULT'S RESTORATION.

beginning of the eighteenth century, the streets of Rome during the empire swarmed with a race of "bloods" akin to the "Mohawks" and "Hectors" of the more modern times I have mentioned, who, "fired with insolence and wine," wandered forth upsetting sedan chairs, beating the watch, and molesting quiet citizens and pretty women; and an encounter with one

of these bullies is vividly described by Juvenal. Finally nocturnal marauders and footpads swarmed in the streets and, setting the imperial police at defiance, spread terror throughout the city.

Juvenal's eloquence in describing to what wretchedness a poor client like himself was exposed in Rome, and how infinitely preferable was life at Sora, at Fabrateria, and at Frusino—"charming" towns where there was no danger in the daytime of being crushed by vehicles, and no nocturnal peril of being robbed or murdered—did not succeed in convincing him of the wisdom of leaving Rome. He raves of the delight of the country with the orthodox frenzy of the poet, mentions a country town where "a house and a garden might be bought at the cost of the annual rent of a dark lodging at Rome," yet remains in that city where Martial depicts him wearily climbing the slopes of the Cœlian Hills to pay his court to some rich patron. Monsieur Gaston Boissier relates that another poet, Statius, showed more resolution. "He was the first poet of his day in Rome and yet one of the poorest. He resolved to return to his birthplace, Naples, where he hoped to find existence easier, but his wife refused to follow him. She was an obstinate Roman lady who thought it impossible to live elsewhere than on one of the seven hills, and at the thought she emitted deep sighs and passed sleepless nights. In vain did Statius describe to her in delightful verses the marvels of Puteoli and Baia, that enchanting country 'where all unites to lend life charm, where the summers are cool and the winters mild, where the sea comes peacefully to die upon those shores which it caresses.' She only thought of Subura and the Esquiline. She was a woman," quaintly remarks the eminent *savant*, "capable of regretting the brooks of Rome in presence of the sea of Naples!"

As a matter of fact, the writers and eminent men of ancient Rome generally agreed that it was not possible to live out of the city. Doubtless they were obliged to own it to be one of the most unhealthy places in the world. Fevers often raged there. Seneca admitted that, in order to feel better, it was enough to quit but for a moment the heavy, dusty, smoky atmosphere of the city; yet it was never willingly left. Cicero, while resident in Rome, did not scruple to say in his public speeches that it was a very ugly ill-built city; that the houses were too high and the streets too narrow. Yet he changed his mind directly he was out of it. "How beautiful it is!" he exclaimed. He had only been banished from it a few months when he found it "admirable." He left it a few years later to govern Cilicia, but this time he began regretting it before he was out of sight of the city. He was thinking of the means of returning to it even before he had reached his province, and while administering lands more vast than kingdoms, commanding armies, and receiving the thanks of the Senate for his victories, he could not console himself for being so far from the Capitol, and wrote disconsolate letters to his friend Cœlius advising him never, never to leave Rome, and always to live in its light: "*Urbem, urbem, mi Rufe, cole et in hac luce vivo*" (Cicero, *Post red. ad pop.* 1).

The use of marble became very common under Augustus, who did his utmost to beautify Rome, not only by his personal munificence in erecting buildings, but by persuading other rich citizens to follow his example. Suetonius gives a list of wealthy Romans who were induced by Augustus to embellish the city with magnificent temples and places of amusement, and he remarks that Augustus used to boast that he had found Rome of brick and left it of marble. There was, observes Professor J. H. Middleton, "probably much truth in this, if for brick we read peperino and tufa, for in the time of Augustus burnt bricks had not yet come into general use."

Private dwelling-houses of many stories were common in the narrow ways and roads of the city, and Augustus decreed that no house should exceed 70 feet in height. This, however, was but a small step in the transformation which was now commencing in the construction of the city and its dwellings. While the older of the private edifices still presented

their lofty gables in stone, or more commonly in wood, projecting over the narrow streets, the newer quarters of the city were laid out in broader ways with lower houses in the Grecian fashion. With the reign of Augustus the stern simplicity of life in ancient Rome came to an end, and all the well-to-do portions of the community strove for the possession of sufficient wealth to enable them to enjoy to the full the luxurious life of effeminate ease and splendour now open to them for the first time. Under this emperor, owing to Greek influence, art developed with almost miraculous rapidity, and was probably at its best up to the second half of the second century A.D.

The reign of Severus and of his sons was the only period in the whole history of Rome at all comparable in its architectural activity with the time of Augustus. Then, however, although Rome was richer than ever, and endless varieties of costly marbles and alabasters were easily obtainable, yet the decay of Roman art had commenced, and the ornate and costly buildings erected during the reign of Severus were no match either in beauty of design or delicacy of workmanship with those of the more polished and refined Hellenised age of Augustus and of his immediate successors.

In the following description of some notable remains of the period under review I have included examples of the three periods of Græco-Roman art, exhibiting respectively (a) its rise; (b) its maturity; (c) its decay.

The Theatre of Marcellus, which falls under the first period, was commenced by Julius Cæsar and finished in 13 B.C. by Augustus, who dedicated it in the name of his nephew Marcellus, the son of Octavia. The existing remains are of great beauty and interest, and a large portion of the arcading of the curved exterior is still standing. The lower story is half buried beneath the present ground level. The design consists of arcades with engaged columns, with an entablature at each story. The lower order is Roman Doric or Tuscan. The upper order is Ionic. The materials are travertine, covered with hard white stucco of pounded marble. The details are very refined and carefully worked out.

When first built (in 27 B.C.) * the Pantheon was a completely isolated structure; the existing walls, which now join it to the baths of Agrippa, are considerably later in date than the time of Augustus, being partly the work of Hadrian and partly of Septimius Severus, and there is no evidence that there was ever any internal connection between the two buildings. It appears to have been called the Pantheon from its earliest time. The upper part of the interior is said to have been enriched with a row of caryatides, the work of the celebrated Athenian sculptor Diogenes, and there were statues by him on the top of the pediment which contained a large bronze relief representing the defeat of the Titans by Jupiter and other deities. Pliny records that the capitals of the columns which adorn the interior are of bronze from Syracuse. The upper stories of the exterior were coated with stucco, whilst the lowest story was faced with slabs of white marble: these have been completely stripped off the circular portion of the building, but are still existent on the square projection against which the portico stands. The portico consists of eight front and three side monolithic columns of grey and red Egyptian granite, having Corinthian capitals of Pentelic marble. Originally the frieze of the entablature contained bronze letters recording the dedication of the Pantheon by Marcus Vipsanius Agrippa during his third consulate (27 B.C.).

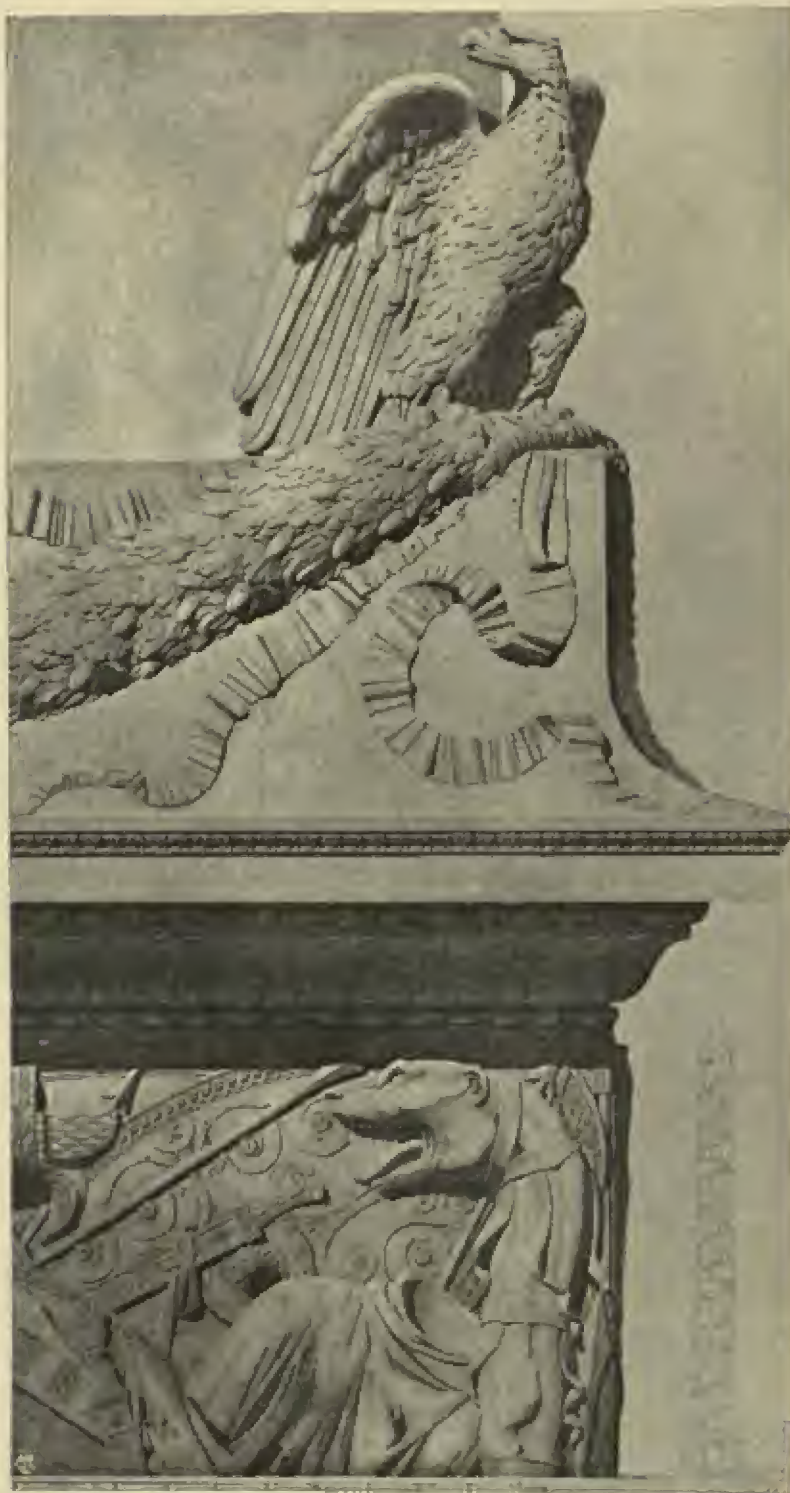
The internal diameter of the Pantheon is 142 ft. 6 in. Its height from the pavement to the central opening is about the same. Professor Middleton in his scholarly work on "Ancient

* In Vol. XXV. of the tenth edition of the *Encyclopædia Britannica* there is a most interesting article by Mr. Phœbe Spiers relative to the date of the Pantheon, in which it is stated that the result of recent investigations proves that much of the brickwork used in its construction

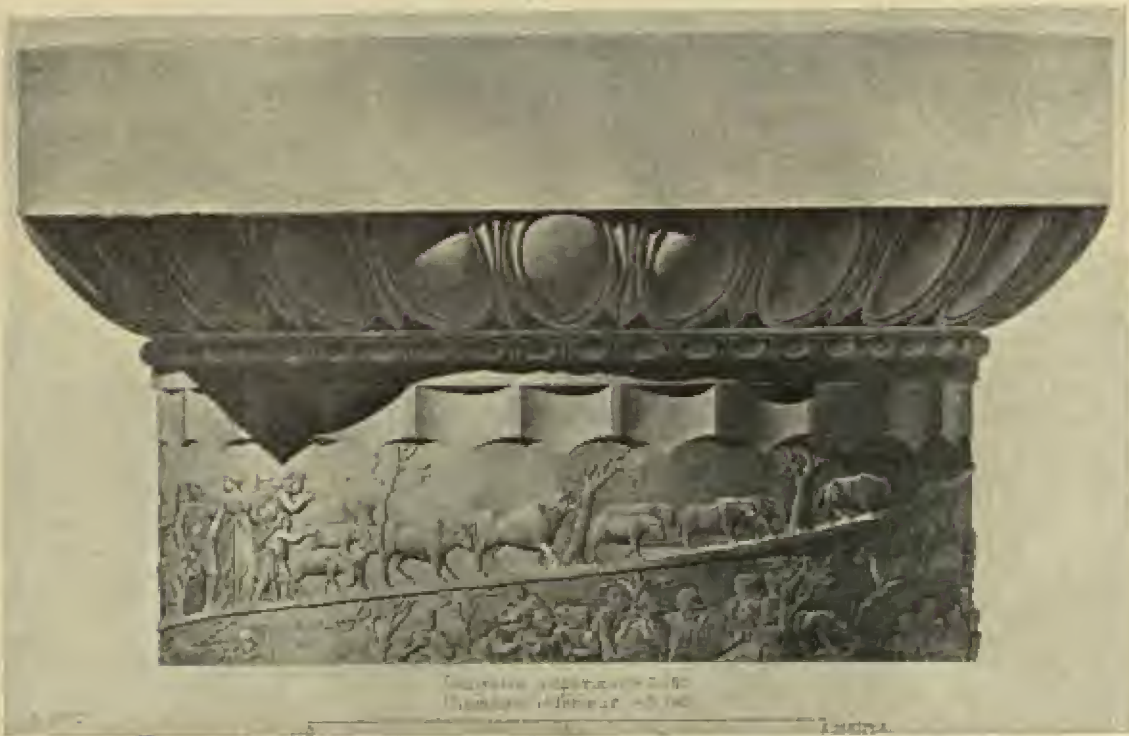
is of the time of Hadrian, the dates stamped on the bricks extending from A.D. 115 to 125, and that traces of a former rectangular building—doubtless the original Temple of Agrippa—are also clearly discernible.



THE TRAJAN COLUMN, ROME.
FROM M. L. GIRAUX'S RESTORATION.



DETAILS OF THE TRAJAN COLUMN, ROME.
AS RESTORED BY M. L. GIRAUX.



DETAIL OF TRAJAN COLUMN, FROM M. L. DUC'S RESTORATION



DETAIL OF TRAJAN COLUMN, FROM M. LAMBERT'S RESTORATION.

Rome" instances this cupola as "a remarkable example of the extraordinarily skilful use of concrete by the Romans. It is cast in one solid mass, and is as free from lateral thrust as if it were cut out of one block of stone. Though having the arch form, it is in no way constructed on the principle of the arch. The walls of the great rotunda which supports the dome are nearly 20 feet thick, cast in concrete, with the thin facing of brick which afterwards became so common, although examples of the time of Augustus are very rare. The actual mass of concrete used is very much reduced by a series of recesses formed in the drum. Those in the interior form large niches for statues and altars, and were enriched with marble columns and other decorations. Other semicircular chambers set at intervals between the internal niches were probably formed to diminish the mass of concrete required, and also to admit the air into its interior so as to hasten its setting."

Internally the cupola is divided into deeply sunk square coffers; and although the outside of the dome is not an important feature in the external design of the building, in its original state it must have looked like a mound of shining gold, as it was then covered with tiles of gilt bronze. These plated tiles were stripped off in A.D. 668 by the Emperor Constans II. The present lead covering was put on in 1454. The internal effect of the dome, with its single central hypæthral opening, 25 feet in diameter, forming a frame to the blue sky, makes it unlike any other building in the world; and even now, although stripped of the greater part of its marble linings, it is still one of the most stately of edifices.

The beautiful works of art which remain to us of the time breathe the living spirit of Greek design—witness the Pompeian vase and fountain [page 231]. They are undated; but as Pompeii was destroyed in A.D. 79, they are clearly well within the first period of Græco-Roman art.

An arch in honour of Titus, of which nothing but its inscription now remains, had been erected in the Circus Maximus during his lifetime, in A.D. 80; but the arch in marble on the hill-top or Summa Sacra Via, and known as the Arch of Titus, was erected by Domitian in honour of Vespasian and Titus to commemorate the taking of Jerusalem. Of this arch the central portion only is original: the sides were restored in 1823.

In the twelfth century the tower of a fortress known as the *Turris Cartularia*, or Record Tower, was partly built over the Arch of Titus, and the remains of this building can still be traced. The capitals of the engaged columns on each side of the arch are said to be the earliest existing examples of the composite order. The jambs of the archway are ornamented with reliefs representing the triumphal procession of Titus and his army after the fall of Jerusalem. In the spandrels of the arch are winged Victories bearing trophies, and the key-stones have figures of Fortuna and Roma. The soffit of the arch is richly coffered, and has a relief of the apotheosis of Titus borne upwards by an eagle. There is a small sculptured external frieze.

Under my middle period I would include Trajan's Column (A.D. 114) [pp. 236-37]. The Emperor's ashes, deposited in a gold vase, were placed in the chamber formed in the interior of the pedestal of the Column, which, built of large blocks of Greek marble, is 97½ feet in height. The diameter immediately above the base is about 12 feet. A colossal bronze statue of the Emperor formerly stood upon the top of the capital, which very closely resembles one of the Doric order. Bands of sculpture in low relief ranged in twenty-three tiers, and illustrative of Trajan's two campaigns against the Dacians, are coiled round the column, which has an internal staircase. The pedestal carrying the column is decorated with reliefs of arms and trophies, and on one of its sides is a tablet with a dedicatory inscription, and under it is the doorway to the spiral staircase. An eagle supporting a garland of flowers is placed at each angle above the cornice of the pedestal.

Among my illustrations is a conjectural restoration of the theatre at Ostia supposed to have been built by Trajan. Ostia, situated at the mouth of the Tiber, about fifteen miles from Rome, was one of the great commercial centres of the empire, and its famous harbours, constructed by Claudius and Trajan, received merchandise from all quarters of the world. It had vast granaries of corn, from which the imperial city received its constant supply.

The Arch of Severus, which, with the rest of the buildings I am about to mention, comes under the final period, was erected in A.D. 203 in honour of Severus and his sons Caracalla

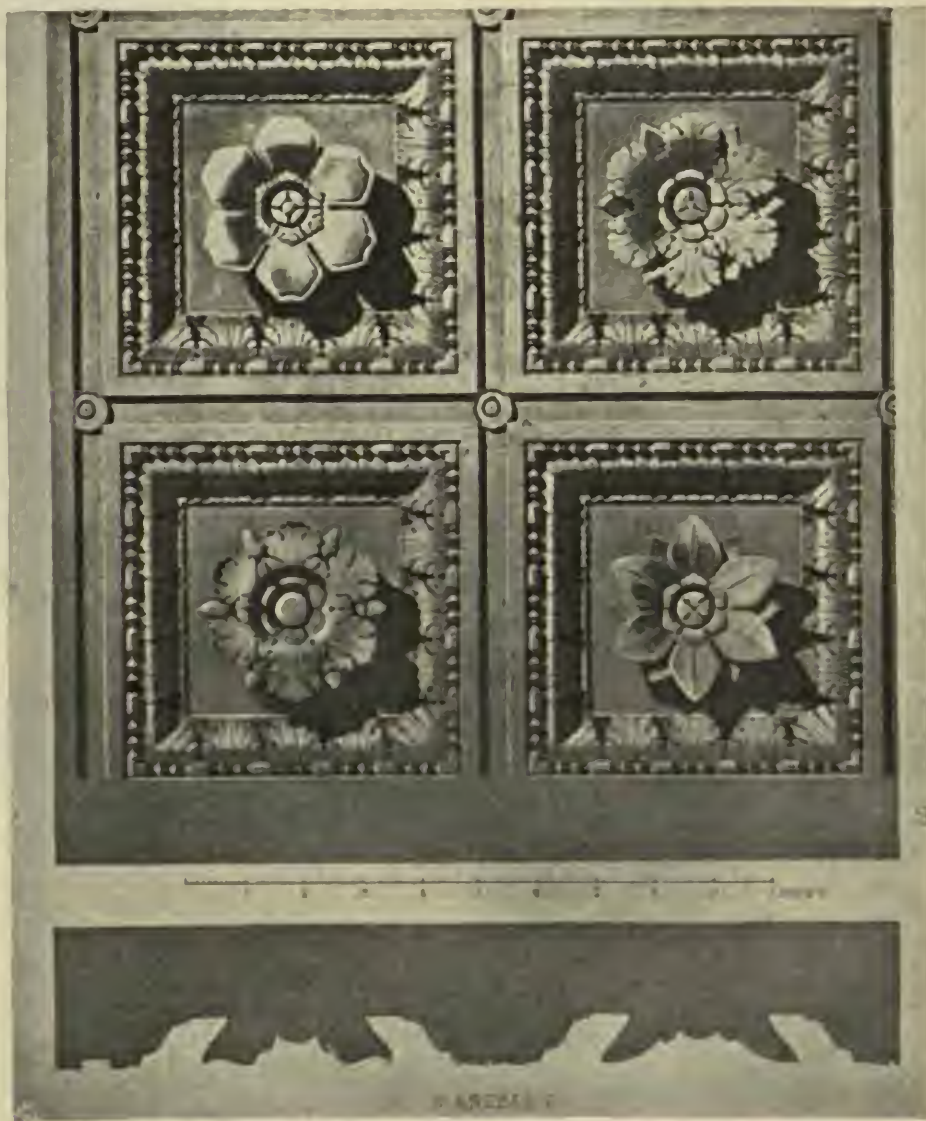


THEATRE AT OSTIA : RESTORATION BY M. P. ARDRE.

and Geta and in commemoration of victories in Parthia and other Eastern countries. The base is of travertine lined with slabs of marble. Elsewhere the arch is constructed of massive blocks of white Pentelic marble. After the death of Severus and the murder of Geta, said to have been stabbed in his mother's arms by Caracalla, the latter in his foolish endeavours to extinguish the memory of his ill-fated brother ordered all statues and reliefs of Geta to be destroyed and his name to be erased from the inscriptions. Traces of the erasure are visible on this arch, as the holes are still existent by which the bronze letters of Geta's name and titles were fastened to the marble. The capitals of the order are designed in a debased composite

style. The sunk coffered soffits and enriched mouldings and centre flowers of the three arches are rather coarsely executed.

The reliefs are poor works of art, but interesting for their representations of historical events, such as the siege of Carræ, the relief of Nisibis effected by Severus in A.D. 195, victories in Mesopotamia, the taking of Babylon, and the subsequent defeat of the Parthian king Artabanus. There are winged Victories bearing trophies, and figures representative of the four seasons in the spandrels of the central arch. The spandrels of the side arches contain reliefs of the river gods of the conquered countries—the Euphrates, the Tigris, and two tributaries. The pedestals of the columns have life-sized representations of captives driven by Roman soldiers. There is a long inscription of the titles and honours of Severus and Caracalla inserted in the large panel of the attic.



DETAIL OF ARCH OF SEPTIMIUS SEVERUS, ROME.
FROM MM. F. DURAN AND G. ANCELET'S RESTORATION.

The Baths of Caracalla are said to have been commenced in the lifetime of Severus, mainly built during the reign of his son and successor Caracalla, and completed by Heliogabalus and Severus Alexander (218-235). They were restored by Theodoric about A.D. 500. By far the largest and, in some respects, the best preserved of the many famous edifices of ancient Rome, they are of great instructive value in elucidating various details of the methods of construction employed by the Roman architects, and they probably represent the last effort of the masters of the Greco-Roman style of architecture to arrest the final decay and extinction of their once robust and virile art. The whole of the buildings, including its outer colonnade, or peribolus, are raised upon a platform in which are placed a number of vaulted chambers some twenty feet above the ground level. These basement rooms were probably used by the



DETAILS OF ARCH OF SEPTIMIUS SEVERUS, ROME.
FROM MM. F. DUTHY AND G. LACOLET'S RESTORATION.

crowd of slave attendants and for general storage purposes, whilst a considerable portion would be required for the furnaces and fuel rooms for heating the water and hot rooms above. The smaller rooms were two or three stories in height, but the three great central halls are supposed to have occupied the whole height of the central building.

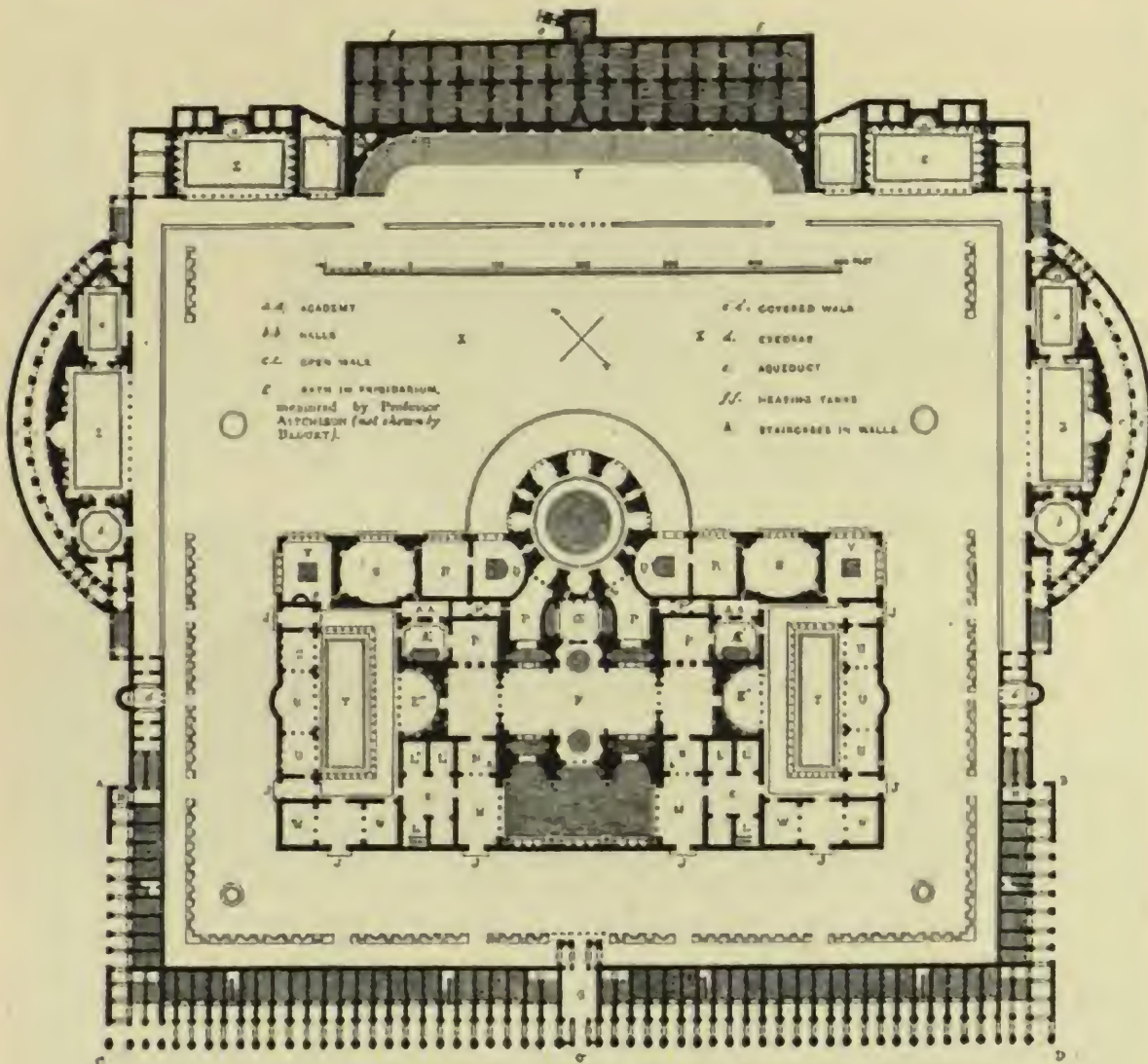
The uses of the chief rooms have been determined by the excavations of recent years. The frigidarium, containing the natatio, or swimming bath, was in the centre of the north-east side. It had vestibules at each end leading to the outer court. The tepidarium, a large and magnificent hall, is placed in the centre of the building; the vaulted recesses in the side walls contained marble-lined baths or opened, one into the frigidarium, and the other into the sudarium. At each end is a large vestibule separated by columns and screens from the main tepidarium. The hall, 170 feet long by about 80 feet wide, had a groined roof springing from large granite columns surmounted by a short piece of entablature in the debased style of the second and third centuries. The short columns on each side were set in front of the recesses containing the warm baths. The next room (south), forming a vestibule to the circular hall beyond, is part of the sudarium, or sweating room. It has a hypocaust floor, and its walls are lined with flue tiles. This is also the form of construction adopted for the great circular hall, the laconicum (vapour bath), which was covered by a lofty dome. On each side of the circular hall there are four lofty chambers opening on to the surrounding gardens, of which the two angle rooms contain semicircular marble-lined baths. The two peristyles are very large, with ranges of columns supporting a vaulted gallery.

Although it is possible to identify the chief rooms of these enormous thermæ there are still very many apartments the use of which cannot be traced. They might have been suites of private baths or dressing and anointing rooms. The outer inclosure (1,200 feet square) was planted with flowers and shrubs and surrounded by a long line of buildings of the time of Heliogabalus and Severus Alexander. The outer buildings on the north-east side consist of small vaulted chambers, two stories in height, with staircases at intervals. In front was a long colonnade, in the centre of which is the main entrance to the thermæ from the Via Appia. The use of these rooms is doubtful. Possibly they were shops, or baths and dressing-rooms for persons who did not care to bathe in public, or attendants' rooms. The halls on the north-east and south-west sides of the peribolus were intended for the use of the philosophers and literary men and their pupils, or as apartments for exercises and games. The Stadium had tiers of marble seats. Immediately behind it is the great reservoir for the water supply of the baths, consisting of sixty-four small vaulted chambers supplied by an aqueduct.

The following remarks by Professor Lanciani, of the University of Rome, are of interest:

"At the end of the third century after Christ, Rome numbered 11 large public thermæ and 926 smaller ones conducted under private enterprise. The Baths of Caracalla alone could accommodate at one time 1,600 people: the Baths of Diocletian 3,600. Taking 1,500 as the average accommodation of each of the public thermæ, and fifty as that of each of the private baths, we learn that in ancient Rome at any minute 62,800 citizens could restore their strength in baths of every nature and description. But for those who frequented the great thermæ bathing was the very last thought; for in course of time, and under the corruption which began to contaminate Roman society after the conquest of the East, bodily health and cleanliness, although the original object, had long ceased to be the only one; for the thermæ, decorated with prodigal magnificence and supplied with all the comforts, conveniences, and novelties that a voluptuary could desire, had become places of amusement whither people repaired for pastime and enjoyment. They were, in a word, gigantic clubs where the elegant youth passed the whole day—at least the hours in which the establishment was kept open. Let us follow one of these young men of Rome into the great thermæ. He is welcomed at his entrance by

the ostiarius, or porter, a tall majestic fellow, with a sword at his side, and by the capsarius, or wardrobe keeper, who takes charge of his wraps. Then follows a general salutation and kissing of friends, exchange of the last topics and scandals of the day, reading of the newspapers or *acta diurna*. The visitor then selects the kind of bath which may suit his particular



PLAN OF THE BATHS OF CARACALLA, AS RESTORED BY M. SLOUT.

From the Paper by Professor Atchison, "The Roman Theriac" [TRANSACTIONS 1859].

A, R, a, Row of small shops, or buildings. x, Piscina (cells coloreis). y, Cella tepidaria. o, Grand entrance. n, n, Bank entrances. i, Lacunicum. j, j, Entrances to gymnasia. j', j', Entrances to baths and cells coloreis. k, x, Apolyteria. l', l', Eleuthera and Conisteria. t, j, Staircases. m, m, Vestibules of cells coloreis. x, x, Side halls. o, o, Floor baths. v, v', v', Prædaria. v'', v'', Reservoirs. q, Cella mulier. n, Cella tepidaria. a, y, Cella frigilaria. t, v, Peristyles. t, v, Hypæbea. v, v, Frigidarium. w, w, Librarias. x, x, Xystus. y, Theatridion, or grand stand. x, x, Palestræ. aa, Eleuthera. x, Sialatorium. o, Cella molia. k', k', Krola.

case—cold, tepid, warm, shower, or perspiration bath. The bath over, the real business begins : as, for example, taking a constitutional up and down the beautiful grounds, indulging in athletic sports or simple gymnastics to restore circulation, and to prepare himself for the delights of the table. The luxurious meal finished, the gigantic club house could supply him



THERMAE OF CARACALLA: PROFESSOR CROSSLAND'S RECONSTRUCTION

with every kind of amusement, libraries, concerts, literary entertainments, readings of the latest poems or novels, popular or 'Barnum-like' shows, and conversation with the noblest and most beautiful women. Very often a second bath was taken to prepare for the evening meal. All this could be done by three or four thousand persons at one and the same time without confusion or delay because of the great number of servants and slaves attached to the establishment.

"Recent excavations and discoveries in the Baths of Caracalla show clearly how the service was organised. It was carried on entirely underground by means of crypto-porticoes which allowed the servants to appear suddenly everywhere, and to meet the requirements of the visitors without crossing the halls and without interfering with the circulation of the noble crowd."

The Baths of Diocletian, accommodating about 3,600 bathers, were commenced by Maximianus in the year 302 in honour of his brother emperor Diocletian, who was then absent from Rome. Tradition records that a large number of Christians, afterwards martyred, were forced to work at the erection of these baths. The general arrangement of the baths and their methods of construction are similar to those of the Baths of Caracalla.

The Basilica of Constantine was commenced by Maxentius and completed after his death in A.D. 312 by Constantine. The general proportions and design of the great central hall are very similar to those of the great hall of the Baths of Caracalla.

The Arch of Constantine was erected to commemorate Constantine's victory over Maxentius in A.D. 312. It is said to have been copied from the Arch of Trajan, which also supplied the fine sculptured reliefs representative of scenes in the life of Trajan. The entablature, the eight fluted Corinthian columns which decorate the fronts of the arch, the spandril figures representing Victory, and the reliefs on the pedestals of the columns are typical of the degraded state of Roman art at the commencement of the fourth century.

NOTE.—Except where otherwise indicated, the illustrations to the Paper are reproduced from the *Fragments d'Architecture Antique d'après les Relevés et Restaurations des anciens Pensionnaires de l'Académie de France à Rome, publiés sous la direction de H. D'Espouy.*



ASTIQUE ROMAN CAPITAL AT S. MARIE DE TRANSTEVERA. FROM H. D'ESPOUY'S RESTORATION (1903).



9, CONDUIT STREET, LONDON, W., 10th March 1906.

CHRONICLE.

London District Surveyors: Terms of Appointment.

The following communication, dated 23rd February 1906, has been addressed from the Institute to the Chairman and Members of the London County Council:—

MY LORDS AND GENTLEMEN,—The attention of the Council of the Institute has been directed to the question of certain changes which are in contemplation by the London County Council with regard to the terms of appointment of District Surveyors under the London Building Act.

From the report of the proceedings of the London County Council published in the public press it appears that the original proposal of the Building Act Committee involved, *inter alia*, a reduction in the number of Surveyors and the substitution of fixed salaries in lieu of fees.

This proposal, it would appear, did not meet with general approval, and the matter was accordingly referred back.

As the subject is one of considerable importance not only to the architectural profession but also to London generally as a City and community, the Council of the Institute, having given the matter their careful attention, desire me to place before the members of your Honourable Council certain views which appear to them worthy of consideration.

As you are probably aware, the Legislature, in dealing with the Building Laws of the Metropolis, has by a long series of enactments extending from the time of Charles II. deliberately and uniformly provided that the administration of those laws should be in the hands of trained and experienced professional men, who in the pursuit of their craft as architects have acquired practical knowledge of the various changing problems which arise in designing and adapting buildings to the manifold conditions which have to be met in a city of such vast size and importance as London, especially in the more central and congested districts devoted to mercantile purposes upon which its prosperity so largely depends.

Under such supervision was London rebuilt after the Great Fire; under such supervision has London grown and developed; and under such

supervision is a large proportion of the building work of the Metropolis carried out at the present time.

The Council need hardly dwell on the importance which the Institute attaches to the preservation of this system, and the advantages which accrue to members of the profession in having the advice and co-operation of a colleague trained in his art and with a full knowledge of the statutes relating to it.

Such co-operation has worked well in the past, and in the opinion of the Institute to the advantage of the owners and occupiers of every class of buildings in London.

It is therefore with a full sense of responsibility that the Council of the Institute would urge upon the London County Council the desirability of preserving in its integrity a system which has obtained and endured through many reigns with the full sanction and authority of Parliament.

To this end they would suggest that the disability which has been imposed in the case of some of the later appointments should no longer be enforced, and that in future all Surveyors acting under the provisions of the London Building Act should be practising architects.—I have the honour to be, my Lords and Gentlemen, your most obedient servant,

W. J. LOCKE, *Secretary*.

The following recommendations of the Building Act Committee were discussed at the meeting of the London County Council of the 27th ult.:—

(a) That as from and including April 1, 1906, all district surveyors be paid a fixed salary by way of remuneration instead of fees; that the amount of salary to be paid to each of the present district surveyors be equal to the amount of the average of the fees received in his districts during the seven years ended December 31, 1905, as provided in Sect. 153 of the London Building Act, 1894; and that the Building Act Committee do submit the necessary recommendations to give effect to this decision.

(b) That with regard to the existing and all future vacancies, the Building Act Committee do submit to the Council such recommendations, giving full particulars of their proposals in every case, as will be in general accord with the "model" scheme described in the report of the Building Act Committee, dated February 12, 1906.

Captain Hemphill, in moving the adoption of these proposals, said that in the surrounding districts surveyors were paid by salary and not by fees; and if district surveyors were paid by salary their status would not be altered.—Mr. Howell J. Williams said that the proposals would lead to another department and staff—the District Surveyors' Department—with highly paid officials to supervise the district surveyors. All this was necessary only if they had no confidence in the men they appointed, but there was a keen sense of honour and integrity amongst architects and surveyors of London.—Sir Melville Beachcroft expressed his regret that this matter had again been brought up. They were far more likely to get experienced men under the present system

than under that proposed. They could not ignore, he said, the views in the matter of such an important body as the Royal Institute of British Architects, whose letter they had received [see above].—Lord Welby, Chairman of the Finance Committee, said his Committee did not view the proposals with favour. They would, he believed, cost the ratepayers a good deal. He moved as an amendment that the proposals be referred back. The amendment was eventually carried by fifty-nine against forty votes.

Ossett Elementary School Competition.

A strong letter of protest has been addressed to the Ossett Education Committee against the terms of Clause 4 of the conditions of this competition, which runs as follows:

"4. The Committee offer a premium of £50, and the Architect whose plans are placed first shall be employed to carry out the work. *The premium will merge in the Commission of 4 per cent. on the amount of accepted Contract and shall include a complete set of Quantities to the Contractors. The Architect will be precluded from accepting any trade discounts or commissions.*"

Unless members hear that this clause has been satisfactorily altered, it is to be hoped that none will enter for this competition.

The Fellowship: Election by Voting-papers.

Requisitions having been received from members conformably with By-law 9 demanding that the election of candidates to Fellowship (election 5th March) be taken by voting-papers, such Papers, drawn up in the form prescribed by the regulation relating thereto [see *CALENDAR*, p. 56], were issued on the 22nd ult. to every Fellow and Associate residing in the United Kingdom. Messrs. C. H. Brodie [F.], Bernard Dicksee [F.], Max. Clarke [F.], Francis Hooper [F.], Percy Tubbs [F.], Wm. Woodward [F.], M. Stammer Hack [A.], Frank Lishman [A.], Vivian H. King [A.], Thomas A. Pole [A.], and J. MacLaren Ross [A.], were appointed by the Council to act as Scrutineers and report the returns. The scrutiny took place at the Institute on Friday the 2nd inst., and the work lasted five hours. At the meeting last Monday the Chairman (Mr. Henry T. Hare, *Vice-President*) having called on the Secretary to read the Scrutineers' Report, a discussion took place, of which the following is a condensed report:—

Mr. C. H. Broom [F.] said that before the report was read he should like to ask, and he was prepared to move it as a resolution if necessary, that the names of the members who had demanded the poll should be read to the Meeting.

Mr. E. A. Guxins [F.] seconded.

Mr. Wm. Woodward [A.] said that in the absence of any by-law or regulation which demanded the assent of the requisitionists to their names being made known, he should support the proposition that their names be read out.

Mr. Max. Clarke [F.] moved as an amendment that the result of the ballot be reported first. They could vote

afterwards on the question of reading out the names of the requisitionists.

Mr. Broom said he had no objection to the reading of the names being postponed.

Mr. Max. Clarke deprecated the names being disclosed at all.

Mr. GEORGE HUBBARD [F.] seconded the amendment. To read the names of those who had signed the requisition would form a dangerous precedent. There might be occasions when it was necessary for members to demand a poll, and it was quite conceivable that they might not wish to have their names associated publicly with their action.

Mr. E. W. HUDSON [A.] supported the amendment. He presumed the names of the members in question were duly subscribed to the requisition, and he saw no reason why they should be disclosed at this stage. They seemed to be anticipating something of which he for one was entirely ignorant.

Mr. ROBERT T. BONNER [A.] said he thought the names should be read out. The names of members who had demanded the poll should be published equally with those who had nominated the candidates.

Mr. E. T. W. GOLDSMITH [F.] asked if there was any constitutional objection to the names being disclosed.

The CHAIRMAN stated that it was laid down in the by-laws that no communication respecting candidates for election should be disclosed; but whether that applied to this particular question or not he felt that he ought not to allow the names to be disclosed without first consulting the Council on the subject.

Mr. MAX. CLARKE [F.] contended that it was a matter for the Institute to settle, not the Council.

Mr. B. J. CAPELL [A.] supported the amendment. He did not know, he said, a single person who had objected, so his action was quite impersonal. The election had been by ballot, and the whole object of the ballot was that each member might vote as he thought right and proper without any interference or being held up to ridicule or odium by others. If the ballot was to be worth anything at all, its secrecy ought to apply, not only to the man who voted by ballot, but to those who requisitioned the ballot. Otherwise they were put in this stupid position: that supposing there was one person to whom a member objected—and had grave reason for objecting—if he voted against that man he was liable to be pilloried as objecting to the whole lot of candidates. He did not know why a poll had been asked for. It was probable that objection was taken to some one on the list; and, if so, why should the objectors be pilloried? The whole idea was most objectionable.

The CHAIRMAN having formally put the matter to the vote the amendment was carried, and the Secretary was directed to read the Scrutineers' Report, which was as follows:

9 Conduit Street, W.C., 2nd March 1906.

To the Chairman of the General Meeting of the
R.I.B.A. March 5.

SIR,—

As Scrutineers appointed by the Council, we have examined the 579 voting-papers received, of which we found 4 invalid.

The following gentlemen have been duly elected—viz.

M. GARRUTT.
H. A. SATCHELL.
E. W. MARSHALL.
G. RANSOME.
H. SIBB.
A. SYKES.

We are, Sir,

Your obedient servants,

(Signed) FRANCIS HOOPER, Chairman, MAX CLARKE,
BERNARD DICKSEE, C. H. BIDDLE, FRANK
LISHMAN, M. STAMMER HACK, J. MACLAREN
ROSS, VIVIAN H. KING, THOMAS A. POLE,
WILLIAM WOODWARD.

THE SECRETARY stated that twenty-eight candidates had been balloted for, and that the six elected were the only candidates previously of the class of Associates.

Mr. C. H. BROWN, rising and referring to the report just read, said that in his view, and in the opinion of a great many others, the result was appalling. Twenty-two candidates approved by the Council as eligible under the Charter and By-laws, and including country architects approved in addition by their own Societies allied to the Institute, had been rejected upon a poll. He would seriously suggest to the Institute, through its Council, that if a set of gentlemen, whether their names were disclosed or not, demanded a poll they should at least come there and count the votes. He and the other members who counted the votes were occupied at the Institute from half-past two on Friday until after seven, and he asked why they should be put to that trouble and inconvenience, and why the Institute should be put to the expense of the poll. This demand for a poll, he would point out, had overridden the Charter and By-laws. And not only that, but it had overridden a Special Resolution of the Institute, *qua* Institute, passed at a General Meeting. That resolution decided that after the 31st December of the present year no Fellow should be elected except from the class of Associates. That was broadly the effect of the resolution. Then to that somewhat drastic resolution—because it was a drastic resolution, although it was one with which probably every member of the Institute agreed—it added a rider to this effect: that during the intervening period—that is to say, from the date of the passing of that resolution until the end of 1906—every architect eligible under the Charter for election who desired to join the Institute as a Fellow should be encouraged to do so. He (Mr. Brodie) was one of those members of the Institute who had tried to the best of his small ability and the best of his small influence to bring about the result which that resolution had in view, namely, the inclusion of every eligible architect under the Charter as a Fellow. The result, then, of the poll which had been demanded was obviously to override, not only the general conduct of the Institute, but also this Special Resolution, and he very seriously submitted to the Meeting and to the Institute whether that was a state of things they were going to take lying down. Because it came to this, that seven members of the Institute could override the desire of the Institute itself. He might tell the Meeting that as to some of the papers which passed under his hands as a scrutineer, every candidate's name on them was voted against. It might be exceedingly funny for the man who marked that paper, but what about the candidate who was affected by it? Twenty-two candidates passed by the Council and the allied Societies, out of twenty-eight proposed, had been rejected; and it was now impossible for those men to enter the Institute except by submitting themselves to examination. No matter what their age, no matter how long they had been in practice, those men could not now enter the Institute, because, as the resolution stood, the closure was to take place at the end of the year, and the by-laws laid it down that no man who had been rejected could be again nominated within twelve months. He might tell the meeting that one of the rejected candidates had a majority of votes in his favour exceeding three to one, but he was rejected because the majority required was four to one. Was it the general wish of the Institute that a man who received votes to the extent of over three to one should be rejected as a Fellow when, if the votes were taken by show of hands in that room, a bare majority was sufficient to elect him? The state of affairs was monstrous, and he was quite sure that the majority of members did not wish that result. Members would be justified in asking him what he proposed. In the first place, he would say that the form of the voting-paper was absolutely wrong, and should be altered. The form of the voting-paper was not settled by the By-laws, but by a regulation which appeared

on page 56 of the KALENDAR. That led to the rejection of the candidates, because the regulation was not known throughout the Institute. It was not generally known that if a member did not vote for a candidate he practically voted against him. Only votes were counted in his favour which were actually marked in the affirmative column; and if that column was left blank it practically amounted to a vote against him; so that 50 men voting against that man could reject him, because it was most unlikely that he would receive 200 votes in his favour. Therefore he would propose a resolution that the Council be asked to alter the form of the voting-paper, and make it parallel with the voting-papers issued for the Council and the Standing Committees, so that unless a man's name was struck out he should be considered to be voted for. That, he believed, would more nearly represent the wish of the vast majority of members. He would therefore move that it be referred to the Council to alter the regulation in the sense he had stated, namely, that the voting-papers issued for the election of candidates for membership should be in the same form as those issued for the election of the Council and Standing Committees. He also wished to state that, in consideration of the serious state of things disclosed by this demand for a poll, he should in due course, after consulting the Council upon the matter, move in that room that the date of the closure be extended if necessary, so that those candidates who had been passed, not only by the Council, but by the Allied Societies should at least have another chance—under the altered conditions, as he hoped they would be—of becoming Fellows of the Institute.

Mr. J. R. NAYLOR (F.), of Derby, seconded the resolution. Mr. W. GILMOUR WILSON (F.), referring to Mr. Brodie's remarks, asked if it was the fact that if the space for the affirmative mark was left blank in the paper it counted against the candidate.

THE CHAIRMAN: It is reducing the number of votes for him; it is reducing the percentage.

Mr. F. T. W. GOLDSMITH (F.) said there were many members present who were under the impression that if they did not vote against a candidate they were voting for him; and the form of the voting-papers would certainly lead one to suppose that that result would follow.

THE SECRETARY, at the request of the Chairman, read the regulation under By-law 9, which was printed on every voting-paper, and was as follows: "The voting-papers shall state the name and address of every candidate, with the names of his respective proposers, and be divided into columns for affirmative and negative votes, such votes only to be counted as are marked in such columns."

Mr. EDWIN T. HALL (F.) asked whether the scrutineers had as a fact registered blanks as negative votes, because if so it was a very serious matter.

Mr. BROWN explained that if the affirmative space was left blank it amounted practically to a vote against the candidate; because if 50 people voted against him, 201 papers marked affirmatively would have to come in to secure his election. As a matter of fact only about one-fourth of the Institute members voted in the election; and yet they had this result. He hoped he had made his point quite clear, that unless a member voted for a man he practically voted against him.

Mr. R. J. ANGELL (A.) said it was not clear to him at all events. If a blank was left in a paper sent in, surely that was not to be counted against that particular candidate. If it were as Mr. Brodie had said, then the only thing to do was to refer those papers back to the scrutineers to be counted again.

THE SECRETARY explained that the blanks were not counted for or against; they were neglected altogether. Mr. Brodie's point was that from the practical point of view it scored against the candidate if he was not voted upon affirmatively. One vote recorded against nullified four actual affirmative votes.

Mr. GEORGE HENRIARD, F.S.A. [F.] asked if the voting and all the procedure had been in order.

THE CHAIRMAN: Everything has been carried out absolutely according to the By-laws.

Mr. HENRIARD, continuing, said that as they had made their regulations, they had only themselves to thank for the result. He did not approve of the result for one moment, but it showed to his mind what a strong feeling there was throughout the country in favour of registration. The whole essence of the Registration Bill was to ensure every man passing some qualifying examination, and the members throughout the country had very unanimously shown that that was their desire. This had been the most forcible argument they could possibly have in favour of registration.

Mr. HORACE T. BONNER [A.]: As reference has been made to the Local Societies it would have been very much better if the names of the candidates had been sent to the Local Societies for their approval.

THE CHAIRMAN: The names have been sent to the Local Societies and were approved of by them. Every name was sent to the Local Societies.

Mr. BONNER: That should have been mentioned on the voting-papers, because London men do not know these country gentlemen. He for one should not vote for a man he did not know.

Mr. E. A. GUTHING [F.] said he was, he believed, perhaps the oldest member of the profession in active practice, and he was certainly the oldest member of the Council, having been a member for something like thirty-three years. He could not help regretting what had occurred. He did not wish to carry any acrimony into the discussion, but he did think that the action of members, whose names they did not know, in bringing about this poll had been a great detriment, not only to the Institute, but to the profession. He did not think they could have realised the harm they would do the profession by the action they had taken.

Mr. A. SAXON SKELL [F.] said that he had put his mark against one candidate on the voting-paper because he did not consider that man sufficiently qualified for the Fellowship. But he thought that those who had put their mark against candidates merely because they were not Associates in the first place had done no honour to themselves, nor were they loyal to the Institute as a whole.

Mr. MAX CLARKE [F.] moved the following amendment, viz. "That a Committee be forthwith appointed to consider the method of election and any other matter connected therewith, including a revision of the By-laws on the subject if necessary." The speaker said he would like to have heard some of the older men in the room, but they did not seem to take any particular part in the discussion, which was very much to be regretted. They had heard that 579 papers were sent in out of the whole body of the Institute in the United Kingdom. He put the result of this election entirely down to the apathy of members who would not go to the extent of putting a postage stamp on one of these envelopes, or putting some twenty-eight marks if they should be wanted on those papers. They might find fault as much as they liked with the members who had demanded the poll, but they must find fault in a very much greater proportion with those who would not take the trouble to vote one way or the other. Surely every member should know if his voice required to be hidden that it was sufficiently hidden behind the ballot-paper; and surely he should have faith in the Institute to vote for the nominees of the Council if he considered the Council all that was desirable. If he did not he had his resource. The particular course events had taken was undoubtedly not a good thing for the Institute. He had gone carefully through the By-laws and regulations connected therewith that afternoon to see if he could find a way by which the Institute could get out of the difficulty, but he could not. There was no way. The only thing to do

was to revise the By-laws, and that must be done by the General Body. He said nothing about the Council. The Council, they might forget sometimes, were the servants of the Institute; they were put in that position for the purpose of carrying out the wishes of the Institute. If members of the Institute thought it desirable, the sooner this revision took place the better, and also the revision of the proposed new By-law which put the time limit for the election of Fellows from other than the Associate class at the end of the present year. Personally he thought there could be no harm in altering it, because there were many desirable architects who could not get in in any other way; they would never become members of the Institute unless the Institute became the centre which registration involved.

Mr. B. J. CARKILL [A.] seconded the amendment. He expressed his regret at the result of the poll; he did not think, however, that those who had demanded the poll were responsible, but those who had signed the ballot papers and voted against the candidates. The inquiry proposed in the amendment would be a good thing for the Institute.

Mr. BRODIE, speaking on the amendment, said he should like to point out that he was quite in sympathy with Mr. Max Clarke, and would vote for his amendment, provided it had not the effect of throwing over, as he thought it would do, the consideration of this question for a very long period. His own resolution merely to alter the regulation was moved in order to overcome the difficulty that exists with regard to the next and immediate subsequent elections. His motion, if carried, would do that. But he should be quite willing to support Mr. Max Clarke's resolution as well.

Mr. MAX CLARKE asked to be allowed to add to his resolution that the committee he proposed be appointed at once.

THE CHAIRMAN: A committee of the Council?

Mr. MAX CLARKE: No, a Committee of the Institute.

Mr. H. HARDWICKE LANGTON [A.] asked if it was permissible to bring forward a motion to alter a By-law without its being down on the agenda.

THE SECRETARY: A motion can be brought forward to appoint a committee.

THE CHAIRMAN proceeded to put the amendment—viz. "That a Committee be forthwith appointed to consider the method of election and any other matter connected therewith, including any revision of the By-laws on the subject if necessary."

Mr. BRODIE submitted that that was not an amendment to what he had moved; it was more in the nature of a rider; his resolution was included in it. He did not object to Mr. Max Clarke's resolution in the least. He was delighted that he had brought it forward. The object of his own motion was to save the next elections.

THE CHAIRMAN suggested the two proposals being put together in one motion, viz. "That a Committee be appointed to consider the form of the voting-papers, the method of election, and any other matter, &c."

Mr. MAX CLARKE: I do not quite understand what authority these regulations have.

Mr. EDWIN T. HALL: The regulations must be passed by a General Meeting of the Institute. Any General Meeting can pass a regulation. With reference to the alteration of a By-law, such alteration can be proposed by any twelve members or by the Council, and can be put to the vote at a General Meeting and carried. It must then go to the Privy Council for approval.

Mr. FRANCIS HOOVER [F.] said that Mr. Brodie had anticipated entirely his intervention in this matter. Having acted jointly with him as a scrutineer last Friday, he felt himself, and he knew others felt, that an injustice was being done. The men who were elected were, without any exception, Associate members; no outsider was elected, and no Associate was rejected. It seemed unreasonable

to suppose that those were the only men who were suitable for election to the Fellowship. Personally he had but small faith in the fetish of the Institute examination, but it was manifest that, amongst a large number of those who recorded their votes, that was the sum and substance of the whole qualification of the men who were nominated. The result, as Mr. Brodie had pointed out, of this form of election was that, unless matters were modified, these twenty-two men would be debarred from presenting themselves again for election. It occurred to him that it might be opportune to postpone the date which had been decided on, but which was not yet final or authoritative, of the end of the year for closing the ranks of the Fellowship. No doubt it was wise to withhold the names of those who had demanded the election by voting-papers; it might perhaps be invidious, but, speaking quite impartially, one could not but feel that the result of the poll had been a slight to those members of the Council who had not only passed the candidates, but had supported their nomination, and therefore the seriousness of the matter could not be urged too strongly.

Mr. GEORGE HUBBARD said he did not know whether his own personal experience would afford any consolation to the rejected candidates. This was the third time a certain number of gentlemen had been "pilled." He, unfortunately, happened to be on the rejected list many years ago, and he certainly resented it very much at the moment. He immediately gave notice, however, that he intended to go in for the examination, and through the leniency, he might say, of the Examiners, he was allowed to pass. Looking back on it, as he could now all animosity was gone, he was quite sure he was very much better for having been made to go through that examination, which he otherwise certainly should not have passed.

Mr. MAX CLARKE, consenting to Mr. Brodie's resolution being incorporated with his own proposition, further slight changes in the latter were suggested and agreed to, and the resolution was put and carried in the following form:—"That a Committee of the Institute be appointed to consider the form of voting-papers, the method of election of Fellows, and other matters connected therewith, including any revision of the By-laws on the subject if necessary, and to report to a General Meeting as soon as possible."

Mr. H. HARDWICK LANGSTON [A.] proposed that the Committee should be appointed forthwith from the members present in the room.

The CHAIRMAN: Would it not be more convenient if the nomination to the Committee were left to the Council?

Mr. W. GILMOUR WILSON [F.]: Is it competent to the Meeting to appoint a Committee?

The CHAIRMAN: There is no objection. If the Meeting like to appoint the Committee, I am perfectly prepared to accept it.

Mr. MAX CLARKE moved that it should be left to the Council to nominate the members, and Mr. LEONARD STOKES seconded; but on a show of hands the motion was lost.

Mr. LEONARD STOKES suggested that as the Associates seemed to have a mistaken view of the whole question, Associates should be put on the Committee so that they might by a study of the Charter and By-laws come to a sensible conclusion on the situation. There were two entrances to the Institute, and there had been for a number of years: one through examination and the other through the candidate's work. They now set themselves up to say that they would not look at the man's work; that might be very good, but because he had not passed the Associates' Examination they would not have him. They forgot that according to the Charter and By-laws he was just as eligible for election as the others. Let Associates serve on the Committee, and they might find that there was another and a very good reason for electing some of these men, although at present they could only see

reason for rejecting them because they had not passed certain examinations, which, after all, was not a very important thing to do.

Mr. W. D. CANOR, F.S.A. [F.], said that before they proceeded to the appointment of this Committee, which he understood was to be elected in that room, and on which apparently they could not put the gentlemen who proposed the poll, as they did not know who they were, he should like to make a few remarks following upon what Mr. Leonard Stokes had said. He did not propose to enter into the question in any polemical spirit. The members who demanded the poll were entirely within their rights. Everything had been done strictly according to the By-laws, and, therefore, so far as the By-laws were concerned, they had no real cause of complaint. A few words, however, were necessary to point out what had happened. It had been decided in that room that after a certain date, now close at hand, the entrance to the Fellowship should be closed so that no one should enter who had not previously been an Associate, with which certainly he most heartily concurred. Then it was thought—and very rightly thought—that the Institute would be in a stronger position to deal, say, with the subject of registration, if the leading architects in the provinces, and in the country generally, were Fellows. Obviously the Institute thought that it was not reasonable to ask gentlemen who had been in practice perhaps thirty or forty years to pass the examination and enter as Associates before being admitted to Fellowship. The result was that the Council itself invited the Allied Societies to suggest members who they thought would be eligible, and who would strengthen the Fellowship; and therefore some of these gentlemen who had just been rejected did not come up of their own free will—they were invited to come up. That was the point he particularly wished to put before the Meeting: the Institute had, rightly or wrongly, put itself into a certain definite position in which it had virtually asked a certain number of men to assist the Institute—he would like to press that point—by becoming Fellows. These men had been nominated and put up for election, and the Institute, after having invited them to come in, had turned round and rejected them. He felt that that was rather a delicate position to be in, and he thought certainly that the Council, through the Secretary, ought to write letters of apology to those country members who had taken the trouble to bring these names before them. They ought to point out to their country members who had assisted them in this matter that it was not the wish of the Council or of the Institute that this result should have taken place. He referred to these matters so that members appointed to the proposed Committee should be fully alive to the position in which the Institute now found itself.

Mr. HORACE T. BENNER suggested that it would be a graceful thing to communicate with the unsuccessful candidates and tell them that there had been some misapprehension with regard to the wording of the voting-papers, and that a Committee had been appointed to revise the regulations, &c., to prevent such misunderstanding in the future.

Mr. EDWIN T. HALL [F.] said that one of the speakers had complained that the older members of the Institute had not spoken that evening. He was afraid he must confess to being one of the older members, but he thought the reason why members of the Council had not spoken was because, as another speaker had rightly remarked, the Council were the servants of the Institute. He would ask the Meeting to consider the position of affairs. The Institute had passed a resolution that until December 1906 architects were to be invited to come up for Fellowship, the object being to get in before the doors were closed all reputable and good architects whose works would justify their being members; for, as Mr. Leonard Stokes had pointed out, there were two standards of eligibility—

one good work done by the candidate, and the other by passing the examination. The Council, as the servants of the Institute, had endeavoured to give loyal effect to the wishes of the Institute as expressed in that resolution, and they therefore sent round the country a letter informing the Local Societies of the resolution of the Institute, and asking them to recommend desirable candidates. It was in loyal fulfilment of the Institute's wishes that the Council had taken that action; and if they looked through this last list of candidates they would see that the majority of those rejected had been put forward by the Allied Societies as candidates, and the Council had no alternative but to accept their nomination by the Allied Societies, and submit them as candidates for election. The General Body had now, in perfect accordance with the By-laws, rejected those men. They had done what was strictly right within the limits of the By-law. Whether that result might be found by some to be unsatisfactory or not, it was strictly a constitutional result. But the question now was this: It had been represented, not by the Council, but by the members of the Institute, that some mistake had been made, and the suggestion was put forward that there was a remedy for it. The Chairman had ruled, after the decision which had been given on the motion, that it would be perfectly right and proper for them to appoint the Committee in that room. That Committee, he thought, must be composed of Fellows, because it was to affect a question of alteration of the By-laws, and the Charter laid it down distinctly that Fellows alone could alter a By-law. Let them, therefore, appoint at once such Fellows as they thought fit to advise what they considered to be the right thing to do, and when that advice was given he had no doubt it would be loyally accepted by the Council, who were only trying to give effect to the wishes of the General Body. He would ask them to consider, however, that as they had an Executive whom they elected and instructed to do a certain thing, they should back up that Executive in doing what they had been directed to do.

Mr. GEORGE HUNNARD said that the real point of the matter had not yet been touched on by the Meeting. The fact remained, and must be in the minds of all, that some gentlemen had been nominated who were not suitable members for the Institute. It was on that account, he imagined, that a poll had been demanded.

Mr. EDWIN T. HALL said that that was a perfectly arguable matter. If anyone had a proper objection to any individual nominated it was undoubtedly his bounden duty to vote against that individual; but it was quite a different thing when the whole list was voted against. It could not possibly be said that every man of the other twenty-two, some of whom had been proposed by the Society of which he was a member, ought to be black-balled.

Mr. FRANK LUSHMAN [A.] said he should like to be allowed to challenge Mr. Stokes's remarks with reference to the feeling he had suggested on the part of Associates. He repudiated any such feeling of that kind. The candidates rejected and those elected had been rejected or elected by the Institute as a whole, and not by the Associates. They had been rejected or elected strictly under the By-laws. Everything had been constitutional from beginning to end, and the Institute ought to stand loyally by the decision of its members.

Mr. LEONARD STOKES said if he had trodden on the toes of the Associates he only did so on an assumption, and he was very glad to hear he was wrong. What he had wished to say was that Associates ought to be on this Committee so that they might benefit the Institute by stating their views. Mr. Hall had said that Associates could not serve on the Committee because the question they had to consider was in relation to an alteration of the By-laws. He contended, however, that Associates could make a recommendation that certain By-laws should be altered just as

well as anybody else. It appeared to him that the shoe pinched the Associates—though he was told he was quite wrong—and he thought the Associates should be given the opportunity of sitting on the Committee and expressing their views. He still believed that when they came to consider the subject they would find that some of their ideas were not correct. Therefore he thought the Associates should have a voice in this matter, and be appointed on the Committee; although they had no power to vote, they certainly had power to recommend an alteration.

Mr. EDWARD MONSON [F.] said he should like to see Associates upon the Committee. He thought there must have been some great mistake made in the voting. He had been a member of the Institute for twenty years, and never recollected having a voting-paper of that description before; and, as a member of other societies, he had never seen a voting-paper where one was compelled to vote for or against a candidate. A large number of members could never have thought of the importance of sending that paper back. The Institute certainly called attention to it, and attention was called by another circular that was issued to the fact that voting was important. It was a very extraordinary fact that all the members who were Associates were elected as Fellows and everyone else rejected. If that was not done by some united action, he did not think such a result would have occurred. The matter should certainly be further considered. A great many of the gentlemen shut out—and he knew some of them personally—were men who were worthy of entrance into the Institute. He hoped Associates would be placed upon this Committee and that the form of voting would be altered.

After some further discussion the Meeting agreed to the appointment of the following members to form the Committee above resolved upon—viz. Messrs. C. H. Brodie, Max. Clarke, A. W. S. Cross, T. P. Figgis, F. T. W. Goldsmith, Edwin T. Hall, Henry T. Hare, George Hubbard, and Wm. Woodward. It was also agreed that the Committee should have power to add to their number.

THE CHAIRMAN, in conclusion, referring to a remark by Mr. Hubbard, that the result of this election was probably due to the fact that one or two men had been proposed for membership who were not perhaps very desirable men, said that that could not be the reason of the turn things had taken, for the Council had received a memorial, signed by a number of provincial Fellows and Associates, which stated that they pledged themselves in every instance for the future to obtain the election to the Fellowship class by means of voting-papers. This was going to happen every time, and it was not a question of the merits of the candidate at all.

The Henry Saxon Snell Prize.

Mr. A. SAXON SNELL [F.] had given the following notice of motion for the Business Meeting of the 5th March—viz. To call attention to the terms of the Henry Saxon Snell Bequest, to ask what steps have been taken by the Council to formulate a scheme for the proposed Scholarship or Prize, and to move a Resolution.

THE CHAIRMAN (Mr. HENRY T. HARE, Vice-President) having called upon Mr. Snell to bring forward his motion,

Mr. SAXON SNELL said he would first read the terms of the Bequest, which were as follows:—

"I give to the Royal Institute of British Architects seven hundred and fifty pounds to be applied as to fifty pounds thereof so soon as may be convenient after my death and as to the income of the remaining seven hundred pounds every third

year afterwards for a Scholarship or Prize to be called the Henry Saxon Snell Scholarship or Prize, but otherwise dealt with in such a manner as the Council for the time being shall deem best calculated to encourage a study of the improved design and construction of hospitals, of convalescent homes, and of asylums for the aged and infirm poor."

Continuing, Mr. Snell said he communicated the foregoing to the Council in January 1904, and they wrote formally accepting the bequest in March 1904, that is to say, just two years ago. He had twice since endeavoured on behalf of the Trustees of the Estate to wake up the Council to the necessity of doing something, but unfortunately both times without effect, and the last time he was simply told that the matter had been referred to the Prizes and Studentships Committee, and that that Committee only met once a year. That probably accounted for the delay. On that he left it, as they felt that though they might have a very legitimate interest in it, they had no responsibility in the matter. He was sorry to trouble them with this little grumble, but he really thought the Council might under the circumstances have dealt more promptly with the matter. On the present occasion he had brought it forward simply as a member of the Institute, claiming no more privilege than any other member, only that he had an interest in everything connected with the subject. He therefore wished to ask in the first place what had been done by the Council to formulate a scheme for this bequest.

THE SECRETARY, at the request of the Chairman, replied that the general conditions of the Prize had been drawn up and were as follows:—

"The selection of the Prizeman shall be based (1) on a design of a practical character dealing with a set subject; or (2) on a critical report on contemporary practice in the subject set for the year, with illustrations of existing buildings and original designs. Further, that the money be devoted to the study of the special subject in England or abroad, according to the direction of the Council in each year in which the prize is offered.

"That as there are three types of buildings specified in the will, the subject be so arranged that an identical type should not come round more than once in nine years."

Continuing, the Secretary said that the subject for the year to be adjudicated in January 1907 was a Critical Report on Hospitals for the Treatment of Consumption, for which the first prize specified in the will, namely, £50, was offered. The conditions of the prize would be under the general conditions of the Institute Prizes and Studentships, and the Jury or the Assessors would be the Prizes and Studentships Committee and the Council, as in the case of all the other prizes and studentships.

Mr. SAXON SNELL said he understood that the

idea was to ask for a design or a critical essay, and he did not think any exception could be taken to that. He was very glad to hear that it was suggested that the prize should be devoted to the study of that particular subject at home or abroad. That would certainly be making a very good use of the bequest, and would be for the benefit of the Institute generally. But he was sorry to hear that the judges of this critical essay or design would be merely members of the Council and the ordinary Prizes Committee. He had nothing at all to say against the membership of the Council, and the Prizes Committee especially: they were nearly all well-known men, the great majority of whom they were very proud of as architects. But he did not think there was a large number, in fact there was a very small number of men on either the Council or the Studentships Committee who had any special knowledge of hospitals or asylums or buildings of that kind. Perhaps he might suggest to those members generally that there was something more in the study of hospitals than they probably thought. Those who had spent a great number of years in studying the subject were still finding that they had to learn a great deal, and they particularly looked forward to this prize as a means of interesting other members in the study of hospitals. He had had a letter that day from Mr. Brook Kitchin, whom he should have liked particularly to have had some say in this matter, in which he said he thought it would be such an excellent opportunity of getting information, and especially from abroad, as to progress in hospital design. He did not know exactly what were the general conditions for prizes and studentships. Was there any age limit? Was it confined to members of the Institute only?

THE CHAIRMAN: No.

Mr. SAXON SNELL, continuing, said that he thought, as to a hospital especially, that this was a work on which an architect and a medical man should act together. He should like to suggest, as had been done by the Royal Sanitary Institute, that a medical man should be allowed to associate himself with an architect in sending in a design or critical essay; and most particularly he suggested that the essays and designs should be submitted to some of those gentlemen who, he hoped they would not mind his saying, knew a good deal more about the matter than the majority of the members of the Council. He should like to have moved that the whole matter be referred to a Special Committee to be chosen from among those members of the Institute who had had special knowledge of hospitals and such institutions.

THE CHAIRMAN said he was sure they had every sympathy with Mr. Saxon Snell in calling attention to this bequest, which was a very valuable one, and would lead to a great deal of useful information being collected. Of course anyone would be eligible to compete for it; and if a medical man

liked to associate himself with an architect, there was nothing in the regulations to prevent him. As to Mr. Saxon Snell's remarks with regard to adjudicating the prize, the contingency had not yet arisen, but in appointing the Prizes and Studentships Committee for the next year he felt sure it would be borne in mind that this new subject would have to be adjudicated upon, and that the Committee which was to have that special work in hand would be constituted in such a way that one or two members who were specially qualified would be placed upon the Committee for the purpose. Mr. Saxon Snell might take it that his wishes and suggestions would be carried out, so far as it was possible for the Council to do so.

Mr. EDWIN T. HALL [*F.*] said they all sympathised with Mr. Saxon Snell in this matter. It was a great thing for the Institute that Mr. Snell's late father should have left so considerable a sum for furthering a branch of study in which they were all interested, and it was natural and proper that Mr. Snell, himself a distinguished hospital architect, should take a keen interest in the matter. His suggestion as to a medical man being associated with an architect in this competition should be stated on the face of the conditions, because the Institute might gain considerable knowledge from such an association; it was a practice followed in a recent public matter of very grave importance. When it came to the appointment of the Committee he thought it would be wise if Mr. Saxon Snell were asked to serve on it too. He had suggested the architect of the Local Government Board being among the assessors. That suggestion might be very carefully considered, and possibly they might have a medical assessor as well. He felt sure that what the Chairman had said represented entirely the views of the Council, and that everyone would wish most sympathetically to fall in with the views Mr. Saxon Snell had expressed.

Mr. SAXON SNELL suggested that inasmuch as two years' interest would have accrued upon the original amount the Council might increase the prize to £60.

The Soane Medallist, 1906.

Professor Beresford Pite, referring to "the scholarly, beautiful, and masterly design for Lord Bacon's Ideal Palace," awarded the Soane Medallion and £100 for the current year, says that the author, Mr. W. S. George, is the son of an architect practising at Ashton-under-Lyne. After training in his father's office, he obtained a Lancashire County Council Scholarship in art, and was awarded a Royal Exhibitionship by the Board of Education. He entered the Royal College of Art in 1901, and obtained the travelling studentship in architecture of the College in 1903. The drawings were published in *The Builder* of the 17th ult.

Some Recent Donations to the Library.

The Hon. Secretary, Mr. Alexander Graham, F.S.A., in formally announcing to the Meeting last Monday the receipt of a number of books added to the Library, called special attention to some of the more important acquisitions which he had directed to be laid on the table that evening. The valuable work, he said, on *The Early Christian Monuments of Scotland*, by Mr. Romilly Allen, was the most complete book ever written on the subject. He strongly recommended students of Celtic architecture, especially in its relation to Scotland, to study the volume. The various monuments were classified and described, and admirably illustrated. An analysis was also given of their symbolism and ornamentation. The work was to a large extent the outcome of the late Dr. Robert Halliday Gunning's Queen Victoria Jubilee gift of £1,000. It was a monumental work of its kind: it filled up a gap in our literature, and was a most valuable and necessary addition to the Library.—There was a book on the Art of Pisa he must also commend to the attention of students contemplating a visit to Northern Italy. It was a complete monograph of the art of Pisa.—Another notable work was M. Henry Guedy's *Palais du Louvre*, a monograph of that remarkable building which illustrated the way in which French Renaissance architecture was developed. There was scarcely any building in France, and certainly not in Paris, which gave clearer indications of the different stages of the Renaissance development. The building had often been treated of piecemeal, but this was the first complete work on the subject.—There were also two most interesting volumes of sketches which had been kindly presented to them by Mr. Batford. One was by their old friend, the late Mr. J. K. Colling, and the other by an equally well-known and successful architect, Mr. Robert James Johnson. The books were especially interesting as showing the different ways in which two distinguished students of architecture studied their art. It would be seen that Colling noted everything of interest relating to mediæval architecture that he found in the course of his long experience. Mr. R. J. Johnson's book was of quite a different type: it consisted of a series of careful tracings of drawings of buildings, both old and new, that had struck the draughtsman's attention. All were most carefully delineated on tracing paper. In moving a vote of thanks to the donors of these works, Mr. Graham said he had also to refer—and he did so with great pleasure—to their old friend, Mr. Sydney Smirke, from whom they had just received a seventeenth annual donation of £5 to the Library. In Mr. Smirke's case he thought they should pass a special vote of thanks for his generous contributions to the Library.—The vote of thanks, being formally put, was carried by acclamation.

Proposed National Collection of Drawings of Ancient Architecture.

The Spiers Testimonial Committee have handed over to Mr. R. Phoné Spiers the sum of £79, being the balance in hand of the Testimonial Fund after paying the costs of the medallion, presentation of books, dinner to Mr. Spiers, and publication of his volume of essays, *Architecture: East and West*. Mr. Spiers proposes to hand over this sum to a small committee, consisting of himself, Professor Lethaby, and Mr. R. Weir Schultz, to deal with as the nucleus of a fund, to be added to by subscription or otherwise, for the purpose of forming a collection of drawings of ancient architecture, in continuation of the work of the Spiers Testimonial Committee, such drawings to be deposited at the South Kensington Art Library, or at the British Museum, and to be available for access by students of every kind. The Committee invite architects and others who possess such drawings to place them at their disposal for this purpose. They will also be glad to receive any information from architects or others interested in the proposal as to the existence of such drawings, or of sketch-books or other material of a similar kind. Photographs of buildings which no longer exist, or which have been materially altered, will also be received for the collection. There has been a great loss of valuable records owing to the want of suitable means of collecting and preserving the same when such have no longer any particular use or value to the owners. The Committee have reason to believe that such a collection would be very much appreciated for purposes of reference, and arrangements would be made for preserving and cataloguing same in the names of the authors and donors.

A replica of the Medallion Portrait of Mr. Spiers, modelled by Professor Lanteri, which formed one of the Testimonial gifts, was kindly presented by Mr. Spiers at the February meeting of the Literature Committee, and has been added to the Institute Collection.

The late Zephaniah King (F.).

Mr. Zephaniah King, senior partner of the firm of Messrs. Zephaniah King & Son, of 171 Victoria Street, Westminster, who died on the 24th ult. at the age of seventy-one, was elected an Associate in 1881, and proceeded to the Fellowship in 1887. Following the formal announcement of the decease at the Business Meeting last Monday, Mr. William Woodward rose and asked to be allowed to say a few words with regard to the loss to him of a very dear old friend. He had known Mr. Zephaniah King for over a quarter of a century, and a more genial, kind-hearted, Christian man it was impossible to meet. Mr. King was a great worker, very rapid and very active. He (Mr. Woodward) had known instances when he had attended clients in the country to receive instructions about making additions or

alterations to their houses, and after dining with them in the evening he had come down to breakfast in the morning with his sketches prepared embodying the views of his clients given to him only the evening before. He was not only a rapid draughtsman and sketcher, but a very artistic one. Not only did he give with his pencil some of the most beautiful touches possible for an architect to produce, but some of his water-colour sketches were equally commendable and pleasing. At any time that the Institute demanded, he placed his services at their disposal. He remembered perfectly well when, some twelve years ago, Mr. King and himself served as auditors of the Institute that he devoted his attention with that care to every minute detail that he gave to every function of his life. His work in connection with the Architects' Benevolent Society was well known. He was sure that those who knew him would mourn his loss as he (Mr. Woodward) did. His wife had lost an excellent husband, his children a good father. He was happy to add that his eldest son was now a member of the Institute, and if he only followed in the footsteps of his father, he was sure he would also merit the commendation which he (Mr. Woodward) had feebly put before them that evening.—On the motion of the Chairman, Mr. Henry T. Hare, the Meeting thereupon passed a vote of sympathy and condolence with Mr. King's widow and family.

Egypt Exploration Fund: Latest Finds.

Monsieur Edouard Naville (*Hon. Corr. M.*) and Mr. C. T. Currelly, in a communication to *The Times* of the 24th ult., state that the excavations of the Egypt Exploration Fund at Thebes have given this year a wonderful result. It will be remembered that for the last two years the explorers of the society (M. Naville, Mr. Hall, Mr. Ayrton, and Mr. Currelly) have been engaged in digging out the oldest temple that is known at Thebes. It belongs to the XIth Dynasty, to the King Mentuhotep Neb-hepet-Ra. This temple is built on a platform, to which access is given by a ramp, and is remarkable because it has in the middle a great block of masonry, the purpose of which is not known, but which may have been the base of a pyramid.

This year (the explorers state) our efforts have been directed towards the back part of the temple; we wished to see how it ended and how it was connected with the mountain at the end of the amphitheatre of Deir el Bahari. In the first part of the season Mr. Hall discovered the enclosure wall and found that the enclosure was interrupted by a court or wide avenue, lined on both sides by a single row of columns, and directed towards the mountain. The rock had been cut open to make way for the avenue.

On the north side of this court, over the enclosure of the old temple, we found remains of a shrine of the Eighteenth Dynasty, of the great King Thothmes III.

This building, made of big blocks of sandstone, did not cover a very large area, and is badly destroyed. A first encouragement was a fine statue of a scribe who lived at

the end of the Nineteenth Dynasty. As this statue was quite perfect, it seemed to us that it could not be alone. In this respect our hopes were deceived; we found no other statues; but suddenly the removal of a few stones revealed to us a chapel covered with sculptures, the colours of which are absolutely fresh. It is about 10 feet long and 5 feet wide. The roof is vaulted, painted in blue with yellow stars. This chapel is dedicated to Hathor, the goddess of the mountain of the West, who generally has the form of a cow. The goddess has not left her sanctuary. In the chapel is a beautiful cow of life size, in painted limestone, reddish brown with black spots. The head, horns, and flanks have evidently been overlaid with gold. The neck is adorned with papyrus stems and flowers, as if she were coming out of the water. She is suckling a little boy, who is again represented as a grown man, under her neck. The cartouche behind the head is that of Amenophis II., the son of Thothmes III., whose sculptures cover the walls.

This is the first time that a goddess has been found undisturbed in her sanctuary. Besides, no cow has ever been found of such size and superb workmanship. The modelling of the animal is exquisite, and the distinctive characters of the Egyptian cattle of the present day are reproduced. The statue is uninjured except for a small piece of the right ear. The cow wears the special insignia of the goddess, the lunar disc between the horns surmounted by two feathers. There is so much life in her head, that she appears as if about to step out of her sanctuary; when one approaches the place the effect is very striking. This is evidently the scene represented on the numerous paintings on linen that have been found in the neighbourhood.

The Government were immediately notified, and the same evening some soldiers arrived, who are on guard night and day. The statue will be removed to Cairo as soon as possible, and the shrine also will probably be taken down and rebuilt in the museum. The value of these things is so enormous, and the difficulties of guarding them so great, that it is felt to be too serious a risk should they be left in the present position, especially as to the chances of pillage is added the possibility of destruction by falling rocks. This is a striking example of the interest which is attached to the excavations at Deir el bahari. This majestic amphitheatre of rocks with its two temples is now one of the chief attractions of Thebes; and except what Mariette did in one of them, the uncovering of the temples is entirely due to the Egypt Exploration Fund, especially the discovery and clearing of the second one. It is most desirable that the work should be finished. We thought that we should come to the end during this year, but the avenue in the direction of the mountain will demand another campaign, for which we urgently solicit the support of all friends of antiquity, and especially of all who are interested in the land of the Pharaohs.

Proposed Exhibition of Sculpture.

The Society of British Sculptors (Thomas Brock, R.A., *President*), which has been formed for the advancement and protection of British sculptors, is petitioning the London County Council for a temporary site and building where an exhibition of sculpture can be properly seen for the first time in London. The memorial calls attention to the mass of beautiful work accomplished by the silent enthusiasts of modern sculptors. Their works have been from time to time inadequately exhibited and then returned to them, to be buried in the studios and finally for-

gotten. Thus many ideal works have been lost to the nation. It is with a view to bring together these works executed within the last twenty-five years, and to afford the public some idea of the wonderful progress the art of sculpture has made in Great Britain during that period, and what talent is hidden undreamt of by the public, that the Society seeks the aid and co-operation of the London County Council. Considering how much a city stands to gain by the enhancement of the beauty of its streets and the appropriate decoration of its buildings, it is not too much to hope that the representative governing authority for London will give that recognition and encouragement of which the art of sculpture stands so greatly in need.

The late Adam Hunter.

The death is regretfully recorded of Mr. Adam Hunter, of Messrs. J. M. Porter & Hunter, Colwyn Bay. Mr. Hunter passed the Special Examination last December, and his name was on the list for election as Associate on the 5th inst. He died on the 26th ult.

MINUTES. IX.

At a Special General Meeting held Monday, 5th March 1906, at 8 p.m.—Present: Mr. Henry T. Hare, *Vice-President*, in the Chair, with 29 Fellows (including 11 members of the Council) and 32 Associates (including 1 member of the Council), the Chairman, having announced that the Meeting was convened pursuant to By-law for the purpose of electing the Royal Gold Medallist for the current year, moved, in accordance with notice, that Sir Lawrence Alma-Tadema, R.A., be elected for the honour. Whereupon it was

RESOLVED, *nem. con.*, that subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of architecture be awarded this year to Sir Lawrence Alma-Tadema, R.A., *Hon. Fellow*.

This concluded the business of the Special Meeting.

At the Ninth General Meeting (Business) of the Session 1905-06, following the Special Meeting above minuted and similarly constituted, the Minutes of the Ordinary Meeting held Monday, 19th February 1906 [p. 260], were taken as read and signed as correct.

The Hon. Secretary announced the decease of Zephaniah King, elected *Associate* 1881, *Fellow* 1887, and Mr. Wm. Woodward [d.] having paid a personal tribute to the merits of the deceased, on the motion of the Chairman a vote of sympathy and condolence was passed to his widow and family.

The Hon. Secretary drew attention to some recent books acquired by the Library, and on his motion a vote of thanks was passed to the various donors, especial mention being made of Mr. Sydney Smirke [F.], from whom had been received a seventeenth annual donation of £5 to the Library Fund.

Proceeding to the report of the Scrutineers re the election by voting-papers of candidates to Fellowship, a motion by Mr. C. H. Brodie [F.], seconded by Mr. E. A. Gruning [F.], that the names of the requisitionists for the poll should be disclosed to the meeting, was negatived on a show of hands in favour of an amendment moved by Mr. Max Clarke [F.],

and seconded by Mr. George Hubbard, F.S.A. [F.], that the result of the ballot be first reported. The Chairman ultimately declined to allow the names of the requisitionists for the poll to be made known without authority from the Council.

The Secretary read the Scrutineers' report announcing the election of the following candidates:—

AS FELLOWS (6).

MATTHEW GARBUTT [A. 1892].
 ERNEST WILLIAM MARSHALL [A. 1897].
 GEORGE RANSOME [A. 1880], Cape Town.
 HERBERT ARNOLD SATCHEL [A. 1888; *Essay Medallist* 1881].
 HARRY SHUR [A. 1888; *Essay Medallist* 1888].
 ARTHUR SYKES [A. 1888; *Soane Medallist* 1889].

Mr. C. H. Brodie [F.] moved, and Mr. J. R. Naylor [F.] seconded, that the Regulation under By-law 9 be amended to enable elections by voting-papers to be conducted on the same lines as the election of the Council and Standing Committees.

Mr. Max Clarke [F.], seconded by Mr. Bruce J. Capell [A.], moved as an amendment that a Committee be forthwith appointed to consider the method of election and any other matter connected therewith, including a revision of the By-laws on the subject if necessary.

By consent of the respective movers and seconders, the two propositions above mentioned were merged into one, and being put to the vote it was unanimously

Resolved, That a Committee of the Institute be forthwith appointed to consider the form of voting-papers, the method of election of Fellows, and other matters connected therewith, including any revision of the By-laws on the subject if necessary, and to report to a General Meeting as soon as possible.

It was also

Resolved, That the Committee referred to in the foregoing resolution be constituted of the following members—viz., Messrs. C. H. Brodie, Max Clarke, A. W. S. Cross, T. P. Figgis, F. T. W. Goldsmith, Edwin T. Hall, Henry T. Hare, George Hubbard, and Wm. Woodward, with power to add to their number.

The following were elected by show of hands:

AS ASSOCIATES (43).*

ARTHUR WILLMOTT ADDISON [*Special Examination*] (Cambridge).
 ANDREW DANSKINE AITKEN [Probationer 1904, Student 1904] (Aldrie, N.B.).
 JAMES HUTCHESON DE CAYNOTH BALLARDIE [Probationer 1896, Student 1900].
 JOSEPH BOYLE [Probationer 1898, Student 1901] (Bolton).
 JAMES ELLIS BRAITHWAITE [Probationer 1900, Student 1902] (Leeds).
 SYDNEY BRIDGES [Probationer 1898, Student 1901].
 ALBERT EDWARD BULLOCK [Probationer 1900, Student 1902].
 MICHAEL BUNNEY [*Special Examination*].
 JOHN COCKER [Probationer 1901, Student 1903] (Altrincham).
 TARRAS TALFOURD CUMMING [Probationer 1899, Student 1902] (Reading).
 ERNEST JOHN DIXON [Probationer 1896, Student 1900].
 BERTRAM DRUMMOND [Probationer 1897, Student 1901].
 FRANK DYER [Probationer 1898, Student 1903] (Manchester).

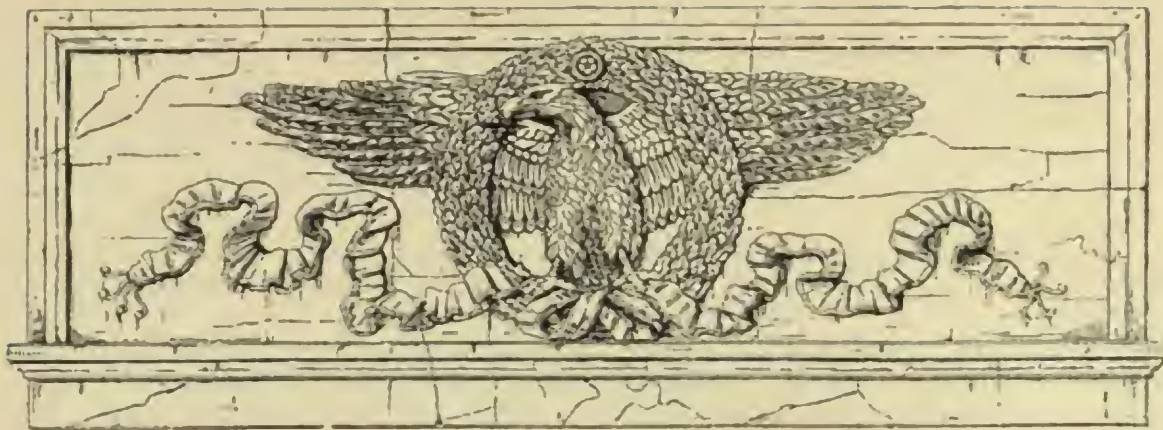
* All the candidates for Associateship passed the Qualifying Examination November 1905.

THOMAS SPEIRS FRASER [Probationer 1890, Student 1895] (Dumbartonshire).
 WILLIAM CURTIS GREEN [*Special Examination*].
 ERNEST LLEWELLYN HAMPSHIRE [Probationer 1899, Student 1901].
 GEORGE HANSON [Probationer 1901, Student 1902] (Halifax).
 CHARLES HENRY HOLDEN [*Special Examination*].
 ALEXANDER HAY LAMONT [Probationer 1902, Student 1903] (Edinburgh).
 LEONARD WILLIAM CRANDALL LORDES [*Special Examination*] (Hythe, Kent).
 WALTER KINGSLEY McDERMOTT [Probationer 1903, Student 1903].
 WILLIAM PERCY MARR [Probationer 1897, Student 1903] (Kingsbridge, S. Devon).
 DANIEL MITCHELL [Probationer 1901, Student 1902].
 HENRY ALFRED MOON [*Special Examination*].
 GROFFREY MORLAND [Probationer 1901, Student 1904].
 HENRY STANLEY MORRAN [Probationer 1901, Student 1903] (Auckland, N.Z.).
 ALBERT ROBERT MYERS [*Special Examination*] (Edinburgh).
 ALBERT CARR NOTLEY [Probationer 1898, Student 1900].
 DOMINIC MARY O'CONNOR, B.A., D.E. [Probationer 1901, Student 1903].
 ALFRED JAMES PEYTO [*Special Examination*].
 STANLEY CHURCHILL RAMSEY [Probationer 1899, Student 1902].
 WILLIAM HENRY RILEY [Probationer 1903, Student 1904] (Leicester).
 HERBERT RYLE [Probationer 1900, Student 1901].
 DUGALD ALEXANDER SHAW [*Special Examination*].
 JAMES HUGHAN SHEARER [Probationer 1900, Student 1901].
 PERCY MONTAGUE STRATTON [Probationer 1901, Student 1902].
 JOHN REYNOLDS SYKES [Probationer 1890, Student 1902].
 PERCY TURNER [*Special Examination*] (Bradford).
 MARCUS OSWALD TYPE, F.S.L. [*Special Examination*] (Birmingham).
 REGINALD FRANCIS WHEATLY, B.A. [Probationer 1901, Student 1903].
 EDMUND CHARLES MORGAN WILLMOTT [Probationer 1900, Student 1903].
 LEONARD SUTTON WOOD, B.Sc. [Probationer 1904, Student 1904].
 HENRY EDWARD WOODSEND [Probationer 1900, Student 1902] (Nottingham).

Mr. A. Saxon Snell [F.], in accordance with notice, called attention to the terms of the Henry Saxon Snell Bequest, and asked what steps had been taken by the Council to formulate a scheme for the proposed Scholarship or Prize. The Secretary, at the request of the Chairman, read the general conditions of the Prize, and stated that the subject set for the current year was a Critical Report on Hospitals for the Treatment of Consumption, and that the Assessors would be the R.I.B.A. Prizes and Studentships Committee. Mr. Saxon Snell having suggested that the assessing body should include some recognised authorities on hospitals, and expressed his desire to move for a Special Committee to deal with the matter, the Chairman, on behalf of the Council, stated that Mr. Snell's wishes and suggestions should be carried out as far as possible.

On the motion of the Chairman a vote of thanks to the Scrutineers of the Voting-papers for the election of Fellows was carried by acclamation.

The proceedings then closed, and the Meeting separated at 10.10 p.m.



LEADWORK. By F. W. TROUP [*F.*] and LAWRENCE WEAVER, F.S.A.

Read before the Royal Institute of British Architects, Monday, 19th March 1905.

I. By F. W. TROUP.

THERE has within the last few years been some revival in the use of lead as a material suitable for decorative and ornamental display. It is common knowledge that this metal was widely used in the Middle Ages. The ease with which it could be cast and wrought by hand gave lead a greater position in the earlier days of simple appliances than it could hold to-day, when steel and even wrought iron can be melted and moulded to our will.

Each metal, however, has its own peculiar properties which render it most suitable for certain positions and purposes; and as it frequently falls to the architect to decide which shall be used, it becomes imperative that he should know what these properties are, and why he ought to use lead in one case, cast iron in another, and pewter or copper in a third.

The most prominent qualities of lead are its durability at ordinary temperatures, its ductility, its exceptional weight, and its low melting-point. To bring out these qualities more clearly it has only to be compared with some of the other metals in common use.

Copper and tin are both nearly as durable, but they are four or five times the price of lead. Copper as a roofing material is sometimes cheaper than lead, but that is because the sheets are about a quarter the thickness, and therefore in that proportion less durable, so far as oxidation is concerned. Tin melts at an even lower temperature than lead, and is only a little less ductile. This means that sheet tin would have to be at least twice as thick as copper; and as it is a more valuable metal, this puts it out of court for roofing purposes. It can be, and has been, used with success where cost is not a consideration. Zinc, again, has a somewhat higher melting-point than lead, but it oxidises more rapidly. If used in sheets anything approaching the thickness required for lead, its life would be considerable, as the oxide formed on the surface protects the metal beneath; but although cheaper than copper, it is much dearer than lead, even bulk for bulk. Iron oxidises rapidly, especially wrought iron and steel. Cast iron lasts longer; but even galvanised—that is, protected by a thin coating of zinc—it still rusts in course of time. It is well sometimes to remember that the roofs of the Houses of Parliament are covered with cast-iron plates. Aluminium is almost within our range as a building material. It is extremely light and very durable, but almost as soft as tin, and melts at a comparatively low temperature. It cannot be soldered—a great

drawback to its use in the ordinary arts, but rather an advantage for us if it is ever possible to use it as a roofing material.

From this casual glance at the properties of the principal metals it is clear that whichever we use we must be careful to seize and develop its peculiar qualities, taking advantage of those which suit us and guarding against what may, from this point of view, be called its defects.

Lead wants this care and judgment in its treatment as much as any metal—any material, I might say—for my comparison of the qualities of lead might easily have extended beyond the list of metals only.

For fifty or sixty years of last century lead was almost entirely relegated to the most utilitarian of purposes. A lead roof to all intents meant a flat roof—one that only birds can see. The worker in lead became a "registered plumber," whose chief glory was his knowledge of drains; he became a sanitary scientist. His skill, however, as a craftsman in the mere manipulation of lead was and is unsurpassed. What he had lost was a loss common to all the trades, as the crafts have rightly come to be called—namely, the skill to play, to sing, and to laugh—in fact, to write a poem with his material. That power, since we cut adrift from tradition, seems to be gone for ever; and whether a new tradition can ever again be formed very much depends upon whether we can resist the vagaries of fashion and the efforts of the self-conscious genius vainly searching after some new thing.

Nevertheless here we are, like it or not as we may, and our bounden duty is to do the best we can with what comes to our hand in men and materials; and milled lead is one of the first things that comes to our hand, but a dull and pasty material compared with lead run out in the old way by casting the molten metal on a sand bed to the actual thickness required for use. The art of casting has never been entirely abandoned. Cast sheets have always been used for lighthouse work, and many of the cathedrals kept up the old practice, and some do so still. Luckily we are not always restricted to milled lead; cast sheet can easily be bought in the open market at the present day. It sells at a rather higher price than milled sheet of the same weight. The sheets are naturally not quite so even in thickness, and therefore a heavier average weight must be used in order that the minimum thickness shall be equal to the unvarying thickness of the machine-produced sheets.

For a flat lead roof, often liable to be walked upon, there is not much to be gained from using cast sheets. A lead flat is not part of a building that, as a rule, is much seen, else the surface texture of the cast sheet is worth making some slight sacrifice to obtain, especially if the old-fashioned open roll or flat welt-roll can be used. Either of those joints is preferable to the usual modern roll with its wooden core. The wood roll has to be large, and therefore clumsy; else we have leaks arising from capillary attraction between the sheets. The open roll has not this defect, but cannot, of course, stand under much foot traffic. When lead is used, as in a spire or turret, it is then certainly worth while to use cast sheet. Even with a wooden core in the rolls the cast sheets do not cause suction to such an extent as milled lead.

Lead, again, neither milled nor cast, should be laid directly upon oak unless the latter, in order to get rid of the sap, has been soaked for some weeks or months in fresh water. In the form of planks a week or two is sufficient; but in the log it must lie much longer, and then stand on end to assist the draining out of the fluids.

The natural surface of the lead as it is cast is the best to use as the exposed surface in a roof or elsewhere. When there is ornament of any sort to be cast with the sheet, then the under or sand surface must be exposed; there is then no choice. This can be as rough as you like, for roofs or rain-water heads and a coarse sand may be then used for the casting bed. But for things which come close to the eye, or which may be handled, a much

finer sand should be used. More care is then required in the casting to provide for the escape of the steam formed by the molten metal on the damp sand. For a "repeat" ornament, or for casting letters and figures for dates, a lead mould can be used. This is easily made and lasts for a long time, but brass or cast iron gives a more permanent article. For knobs and finials it is possible with a lead or brass mould to fill it with molten lead, and after two or three seconds empty out the interior unsolidified lead, giving a hollow casting without the trouble and expense of making a core as for a brass or iron casting. Even such things as soil-pipe traps used to be cast in this way, although now these are usually squeezed out by an uneven but controllable hydraulic pressure which forces the tube to right or to left as the lead exudes from the orifice. Lead, however, is so easy to twist and turn into decorative forms and to cast into ornamental patterns that I would counsel designers to use some restraint. As it is but a step from the sublime to the ridiculous, so it is from legitimate beauty to the nausea of excessive ornament. With this danger in view I venture to urge designers never to forget their material; do not design a thing to look well on paper. Use paper if it must be, but only as a means to an end; and, even in modelling, the final material must never be lost sight of. It is quite possible to make a casting from a single pattern in several different materials, but to take full advantage of the best that can be got out of each material that original pattern ought really to be varied in each case. For a plaster cast, for example, you may have moderately high relief; but it should be soft in contour, and there is no special reason for economy in material. In lead there is great reason for economy of material, and you can have finer lines, and can reckon on bending, soldering, or even to some extent bossing up your casting after it is made. In cast iron, besides having shrinkage and fracture to consider, you have in it some of the qualities of both the other materials; but it cannot be bent like lead, nor trimmed and cut with the same ease as a plaster cast.

To return to lead for a moment, there are several other ways of ornamenting it besides by casting it in moulds or in damp sand which has been moulded by patterns or stamps.

It is very easy to make fretwork patterns for ventilating panes in windows or as a vallance round a leaded dormer or door-hood. This is certainly best done with chisels and gouges on a block of lead. The chisel should be wet, as any plumber's boy knows who has got to the length of cutting a sheet of lead with a draw-knife.

Lead can also be incised and the incised lines filled with various coloured mastics in letters or what shapes you will.

One of the most gorgeous possibilities for decoration in lead is to be had by tinning the metal in some design of ornamental or figure decoration and then glazing over the tin surface with transparent colours. How long these colours last I am unable to say, but the tinned ground on which it is laid is permanent, and the colour can thus, without great difficulty, be renewed, especially if the figures are, as they used to be, outlined with broad incised lines filled with black mastic.

I have said little in these remarks about what was, after all, the chief method of working lead and using it in the buildings of the Middle Ages. This was simply to take the plain cast sheets, and after cutting it to the outline as near as might be, and in convenient size for handling, to dress, boss, and beat it up to the shape required. Sometimes these forms were carried on wooden cores; at other times on a framework of iron, or were simply fixed by iron hooks and brackets on the timber framing. This art is as dead as Queen Anne. It is a personal art like sculpture—very often it was sculpture—and no amount of designing by another for the craftsman to execute will do much to restore it. So far as manipulation of the metal is concerned, the skill and knowledge to work lead are still with us. Anyone who

goes to see the exhibits of the many technical classes can see for himself perfect miracles of what can be done in beaten lead, but they are mere *tours-de-force*. The art has been so long divorced from the craftsmanship, and the teaching of tradition so long deserted, that their reunion is hardly a matter to be accomplished in a single generation. We can but live in hope.

I must not, however, detain you longer. My colleague has many things to show you and tell you about—examples, monumental examples, of what has been done in this country in leadwork. We cannot perhaps boast such gorgeous shows of leadwork as are to be found in France; but for beauty of proportion and design some of the English lead-covered spires are hard to beat, and the numerous examples remaining will be a surprise to many.

II. THE EARLIER LEAD SPIRES. BY LAWRENCE WEAVER, F.S.A.

IT seems to me that anyone reading a Paper on leadwork before so distinguished an architectural gathering should have at least one of two qualifications: he should be either an architect or a lead-worker. Mr. Troup is both. I am neither. I am only an antiquary, and I confess that the high respect which I have always felt for this Royal Institute was painfully reduced when you did me the honour to ask me for a Paper on a subject about which I can obviously know nothing.

I beg, however, that all complaints may be addressed to the President. I have already arranged that Mr. Troup shall answer all the awkward questions.

As to a subject, I felt that to range vaguely over leadwork generally would be useless in the time at my disposal. I am already somewhat on record in the matter of pipe heads, cisterns, statues, and fonts, and I will therefore confine my wearying remarks to leaded spires, and amongst them to the Gothic examples only. The Wren spires made such a break in the traditional forms that they make a separate subject.

Lead has certainly no worthier use than in roofing. It equally certainly has no nobler use than in the covering of spires, for spires are the greatest concession that Gothic architecture has made to constructed beauty and symbolism; and amongst them the lead-covered timber spire takes an honoured, if a small and rather forgotten, place. The lead spire has a character all its own, and maintains its character of a spiritualised roof more intelligibly than a stone spire can do. The white, almost glistening, patina which comes with age on lead, where air is not befouled with smoke of cities, makes the spire stand like a frosted spear against the sky, and the slight twists, which almost every timber spire has taken, give a peculiar sense of life. These are "refinements" which do not fit into Mr. Goodyear's theories, but result from the sun sporting with a slender timber structure, made more sensitive by its metal coat. A shingled spire is apt to twist (Clebury St. Mortimer is an example); but there is none shingled that compares with the inebriate vagaries of the lead spire of Chesterfield.

One of the most interesting points that arises with lead spires, as indeed with all subjects, is the question of origins, and in this connection I must mention shingled as well as leaded timber spires. Mr. Francis Bond in *Gothic Architecture in England* takes some pains to classify spires of all types. He divides them into Pathless and Parapetted spires. The pathless he divides again into Class I., timber spires, and Class II., broach spires. As a subdivision of timber spires he includes those spires built in stone which are yet of the timber type, such as St. Kyneburga, Castor, Northants. Among the timber spires which he gives under his "Pathless" heading I will deal with the following:

a. Shere, Tangmere, Merstham, Newhaven, Plumpton. These are shingled, and may be taken as the first remove from spires square on plan, which are simply lofty roofs. I propose to identify them as the "collar-type." They are of a form equally appropriate to lead and to shingled coverings. Octagonal in their upper portions, the diagonal sides spread and bend outwards to the corners of the tower, which they meet in a point. The vertical timbers of the octagon are framed in a collar which is supported by the timbers of the lower part.

b. Ryton, Northumberland, is strictly of this collar-type, but leaded, the angle between the lower and the upper parts of the spire being, however, much more obtuse, and resembling rather, in general proportions, the Branton broach.

c. Godalming is not of this type of pathless spires, but a pure broach, and should have been in Mr. Bond's Class II.

d. Hemel Hempstead, Wickham Market, Walsingham, Chesterfield, and Harrow are not even pathless, but parapetted spires, which stand within the wall line of their towers, and should have been in Mr. Bond's Class III. Moreover, none of the last four has a collar. All run down straight from top to base.

I now offer an amended classification for lead spires, based on Mr. Bond's, but corrected.

Pathless.— I. Collar-type, *e.g.* Ryton.

II. Broach-type, *e.g.* Branton, Barnstaple, Godalming, Ickleton, Swymbridge, Almondsbury.

III. Pinnaced type, *e.g.* Long Sutton, and St. Nicholas, Aberdeen.

Parapetted.— I. Collar-type, *e.g.* St. John's, Perth, the tower of which has a heavy over-sailing parapet within which the spire stands.

II. Broach-type, *e.g.* Hemel Hempstead.

III. Straight-sided type, *e.g.* Harrow, Chesterfield, Minster, Great Baddow, Much Wenlock, Wickham Market.

IV. Spirelets, *e.g.* East Harling, Wenden Ambo, Swaffham, Hitchin, Sawbridgeworth, and Ash, Kent.

A certain difficulty arises in the definition of lead spires owing to the somewhat loose use of the word "broach." The type which I call "collar-type" is sometimes called "broach," but incorrectly.

The essence of the broach I take to be that the filling-in between the angles of the tower and the diagonal faces of the spire shall be of pyramidal form. Mr. Bond says, when dealing with broach spires: "Just as the timber spire-form was copied in stone, so the stone broach was copied in wood, *e.g.* at Branton, Devon." He does not, however, point out that there are more broach-type than collar-type pathless leaded spires. One must, however, concede the collar-type as being the original and natural form for a timber spire. Mr. Prior, in his *History of Gothic Art in England*, writes of "wooden lead-covered spires, first the models and then the copies of the stone." And again: "Almondsbury, Gloucestershire, Hemel Hempstead, Hertfordshire, and Branton, which, being wood and lead reproductions of the Northamptonshire 'broach,' may be conjectured as originally due to its influence."

So much may be admitted without suggesting that the lead broach is a slavish or unintelligent copy of the stone broach. It is a question of carpentry. The construction of the collar-type is more congenial to wood than is the broach. The octagonal framing calls (but not, I think, very urgently) for strutting at the base. In the broach the main framing is strutted by single timbers running through the diagonal faces of the octagon; and this is not so satisfactory as the double strutting of the cardinal faces, which obtains in the collar-type.

I am inclined to look at the question rather from the point of view of weathering. The builder of lead spires had a simple problem to face. He had to put an octagonal spire on a square tower, and to provide a weathering from the diagonal faces of the spire to the angles of the tower. In the case of shingled spires he elected to construct what I have called the collar-type; in the case of leaded spires he used both the collar-type and the broach-type, but the latter more commonly.

While it is true that in stone broach spires the pyramidal broach, borne on a squinch, buttressed the spire and had an important constructional function, it seems equally true that in timber spires the constructional significance of the broach- or collar-type is less marked.

From the weathering point of view, the broach-type is as efficient as the collar-type, and I feel strongly that the broach is far the more attractive.

Regarding the question of development, Mr. Prior's view that the lead broach was inspired by the rise of the Northamptonshire stone broach is confirmed geographically. The leaded spires of broach-type in Devonshire, Gloucestershire, and Surrey are comparatively near Northamptonshire, while the furthest lead spires—viz. Ryton, Northumberland, and St. John's, Perth—are of the collar-type.

The question is hardly helped by considering the drawings that remain of the destroyed cathedral spires in Dugdale and elsewhere, as they are profoundly unreliable in detail.

The history of destroyed lead spires is a fascinating one, but I have no time to refer to any but that of Lincoln, and to that only by reason of what survives. I illustrate the central tower on which the pinnacles are leaded, melancholy reminders of the glorious spire which has gone. The pinnacles are probably restorations done at the time when the flimsy stone battlements were done by Essex in 1775.

I illustrate another notable detail of Lincoln in the lead-covered wood parapet, which from the ground looks like stone. It is only on the west side of the south-east transept, and exactly copies the bulk of the parapets, which are, of course, in stone.

Before I leave cathedral leadwork I would mention the lead cresting from Exeter Cathedral, and note that the same fleur-de-lys form persisted, long after the Gothic spirit was dead, as an ornament to the edges of the Aberdeen spires.

I will now deal in a little detail with some examples of the different types I have classified.

Of Class I., pathless collar-type, Ryton shows a very irregular meeting of the diagonal ribs on the faces of the octagon.

Of Class II., pathless broach, Almondsbury has, for its height, very small broaches: they strike the diagonal faces at a comparatively acute angle.

With regard to the leading, the sheets are narrow, and the diagonal arrangement of the rolls is carried down to the base of the spire. There are no spire lights, but very small openings for ventilation near the top. At Braunton, Devon, however, there are gabled vertical spire lights with luffer boards, and the rolls are gradually worked from a diagonal arrangement to the horizontal, half-way down the spire lights, a treatment which adds much interest. At Barnstaple the spire lights are a still more notable feature than at Braunton. I think Barnstaple the finest existing broach. At Swymbridge (like Braunton, near Barnstaple) the spire has gabled lights similar to Braunton, but the spire was restored a few years ago, and I cannot say whether it is now as it originally was.

Ickleton, Cambridgeshire, has a remarkable spire. It is very low compared with the height of the tower, and has an odd treatment.

The chief characteristic of the collar-type of shingled spire is that the sides do not run down straight from the apex to the base, resting on the tower wall. At the collar the line

both of the cardinal and of the diagonal sides breaks outwards. This is true of Merstham, Pembury, Plumpton, Tangmere, and Newhaven, all shingled. It is also true of St. John's, Perth, leaded collar-type. It is, however, not the case with Hadleigh, Suffolk, and Ryton, Northumberland, both leaded collar-type.

The peculiarity of Ickleton is that, though it is broach-type, the sides break outward about half-way down the broach itself, and so give it a strong superficial resemblance to such shingled spires as Merstham. Ickleton is the only leaded broach which has come under my notice which presents this peculiarity. It is, in fact, a compromise between the broach- and collar-types, and goes, I think, to help my contention that the actual broach is as natural an angle finish for a timber as it is for a stone spire. Ickleton spire is of date 1351. Godalming spire is of beautiful proportion and a little twisted.

Of Class III., pathless pinnaced spires, Long Sutton is, I believe, the only surviving English example.

I turn now to the parapetted spires, Class I., collar-type. The spire of St. John's, Perth, is unusual in that it is of collar-type standing within the tower walls, and the parapet is heavily corbelled out. In proportion to the tower it is very low and squat. There is a mass of information with regard to Scottish spires with which I shall shortly be dealing in the *Burlington Magazine*.

Of the parapetted broach-type Hemel Hempstead is not a very convincing example, since the parapet covers all but the top of the broach, and the spire looks straight-sided. I have not had an opportunity of inspecting it, and but for Mr. Prior's mention of it as a broach I should from a mere examination of the photograph have blundered into describing it as a straight-sided spire.

Of Class III. of the parapetted type, the straight-sided spires, Great Baddow, Essex, is notable for its economy of rolls. On each face there is only one roll between the angle rolls, and this ceases at the fourth horizontal division from the top. The little bellcote is an interesting addition, but, I imagine, quite recent.

Harrow, on the other hand, is prodigal of rolls, there being three on each face between the angle rolls. The spire is of the fifteenth century. On the lead near the base of the spire are writ large the names of the churchwardens of 1823 under whom the spire was repaired, and, curiously enough, also the legend, "Hannah Patman, plumber, 1823." This lead-working lady was carrying on the business of her deceased husband.

Minster is another of the spires with vertical rolls only.

Wickham Market's special interest is that it is an octagonal spire on an octagonal tower.

Of Chesterfield I need say little—it is so well known—save to point out that the rolls are of herring-bone arrangement, as is more common with pathless spires, while vertical rolls are more usual with parapetted examples.

Of the parapetted spirelets, which I have called Class IV., there are numerous examples. These engaging little spikes have obviously no justification except a purely decorative one. To people who want to justify everything a broach- or collar-type spire is a roof, and bells can be hung on it. For the large plain spire standing within a parapet there is less excuse, and for the spirelet none at all.

The spire of East Harling, which dates from 1450, is not only the most ambitious in England from the lead-worker's point of view, but, I think, the most beautiful. The spire proper stands on an octagonal drum with vertical sides, also leaded. This conjunction of spire and drum is an imitation *in petto* of the octagonal intermediate stage between tower and spire that we find in stone at Wilby and Exton. There is in Dugdale a drawing of a very notable feature of Hulm Abbey, Norfolk, which is of cognate character. I reproduce it.

The lower stage of the spire appears to have been circular and altogether leaded. It is in a general way the ancestor of the East Harling treatment.

The spirelet of Swaffham is very interesting, if late. It has also been restored, in 1896, by Mr. W. O. Milne, but so piously as to rob the word "restoration" of its sting. The history of the spire, as kindly given me by Mr. Milne, is so interesting as to deserve extended mention. The tower is of 1507-1510. It is not known whether a spire was built then, but I conjecture not. I incline to date the first spire about 1600. In 1777 the spire was taken down because, as the vestry minutes state, it was observed to be out of perpendicular. Upon this one of the churchwardens and the vicar employed Mr. W. Ivory, an eminent architect of Norwich, and Mr. Robert Treegard, of London, a retired builder, to take a survey of the spire. After survey they reported that the spire was dangerous and must be taken down. A vestry meeting then made order that Mr. Frost, carpenter, "do forthwith repair the spire at an expense of £80." Apparently the joint wisdom of the eminent architect and the retired builder was flouted, and the spire only ordered to be repaired. The strenuous Mr. Frost, however, "without further application to the wardens, proceeded to take the spire down entirely and to rebuild another."

In 1778 the wardens are presented with a bill for £437 0s. 5½*d.*, the 5½*d.* doubtless for moral and intellectual damage consequent on the original contract only having been for £80. After much wrangling they settled for £387 0s. 5½*d.* One feels that Mr. Frost's honour was secure. He gave away £50, but he triumphs with 5½*d.*—altogether a charming picture of the engaging ways of contractors in the eighteenth century! To return to the spire itself. The drum was not taken down in 1896, though some of the decayed timbers were replaced by new. The open oak arreading was entirely renewed, the old work being very debased—doubtless some of our friend Mr. Frost's work. The upper part of the spire has been rebuilt to precisely the same dimensions and details as before. By far the most interesting feature, however, is the ornamentation of the drum. Cross keys and swords are surrounded with a moulding, egg-shape in outline, and 1½ inch thick. These doubtless came from the spire which Mr. Frost pulled down, as they were simply fixed by two large iron nails, assisted by two hooks at the top to hang them in position. They have been refixed with every care. I doubt not that such ornaments as these were common features of mediæval lead spires, and have disappeared as the spires which now exist were repaired and releaded.

Having dealt so far with the history of lead spires, I now venture something by way of constructive criticism. Mr. Leithaby when dealing with lead as a roofing material points out that metal architecture was in early days the architecture of the poets. That is hardly its character to-day. After Charing Cross we look to the coroner rather than to the poet. It is unquestionable, however, that much thought has been given to the use of iron construction, if haply it might be made as beautiful as it is often useful. People have giped, and justly, at the papering with stone of the steel skeleton of the Tower Bridge and similar structures. Critics of architecture have laid down with dogmatic impressiveness that, concealed in the womb of time, there must be an adequate steel architecture which shall be æsthetically satisfying. The architectural heavens have been loudly invoked that a Wren may arise who shall do this thing and bring in a new era. The hypothetical Wren, however, lingers.

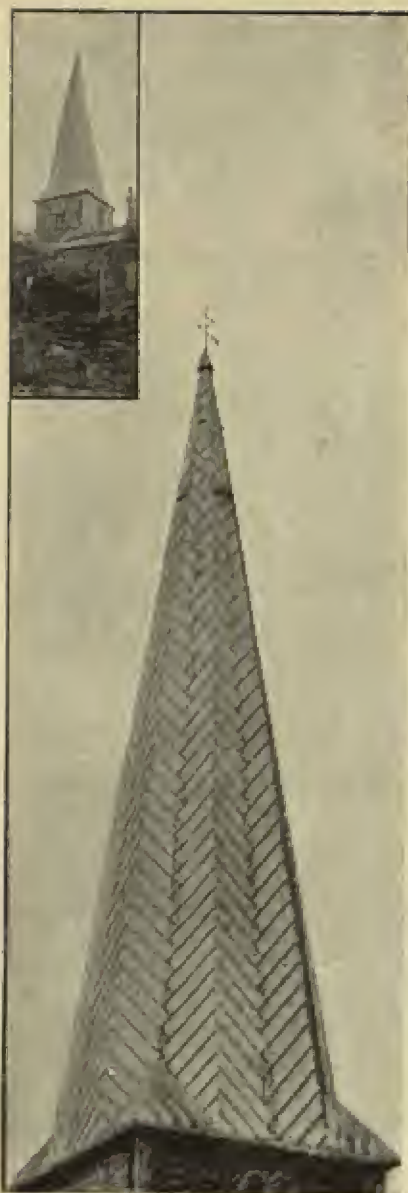
Now I trust that my illustrations have shown how beautiful lead spires can be and are. We cannot doubt that they held a high place in the affections of the mediæval architect. The lead gave him no trouble: he gained infinite variety of surface by different arrangements of the rolls; he outlined great cartoons on the faces of his spires (as at Châlons-sur-Marne), and blazoned them with gold and colours; he wanted the metal-cased architecture of the poets, and he got it—his difficulty was that he could not keep it. His timber framing was



GREAT RADLOW, ESSEX.



DEVONSHIRE.



ALMONDBURY, HANTS.



RYTON, NORTHUMBERLAND.



ICKLETON, CAMBS.



LEAD CRESTING, EXETER CATHEDRAL.



BARROW, MIDDLESEX.



HELM ABBEY, NORFOLK.
(From Dugdale's *Monasticon Anglicaum*.)



SWAFFHAM, NORFOLK.



CENTRAL TOWER, LINCOLN CATHEDRAL.



LEADED PARAPET, LINCOLN CATHEDRAL.



THE KLEIN KERK, STERKSBURG. (MR. CHARLES NICOPOLSKY, F.R.S., of 184.)

in danger of fire from above and fire from below. Lightning conductors have minimised, if they have not rendered impossible, the former disaster, but there is always the danger to a timber spire from fire arising in the belfry-stage or in the body of the church. After a timber spire had been burned down once or twice and rebuilt, and then burned down again, even the desire for a metal-covered spire gave way before motives of economy, and stone replaced the timber and lead.

To-day there is an alternative. Our spires can be built in steel and sheathed in lead, and will defy the flames. I suggest that here is a field where there is room for effort and the possibility of notable achievement. I do not make any suggestions as to the precise form the steel skeleton shall take, or what material shall be intermediate between steel and lead. These points are matters of detail. The construction should present no difficulties. The spire has but to carry itself. I am concerned rather to emphasise the fact that here is one field, not unimportant even if it be small, where steelwork may come into its own; may come faithfully and gracefully; may be the metal bones of a metal architecture. I claim for it that it preserves the initial idea of a spire that it is a glorified roof; that the lead surface gives opportunities for colour treatment that a stone spire cannot give. I believe that, had the mediæval architect found the material to his hand, we should be pointing to-day to his leaded steel spires as notable examples of the Gothic spirit. But I can happily do more than babble of these things. I can show you a design for a leaded steel tower. This my friend Sir Charles Nicholson has done to illustrate my suggestion, and I am sure you will add your thanks to mine for his kindness in backing my lame words with his strong and brilliant brush and pencil. It will not be attributed to my gratitude and to my friendship for him, that I describe this Bleiern Kirche as instinct with the poetry and mystery which are the characteristics of great architecture. I can only hope that some ecclesiastical Mæcenas will be found, for whom Sir Charles can materialise this dream church encrowned with lead. So far it has only been built in Strelsau, and its date is February 1906. Strelsau—so Sir Charles tells me—is little visited by architectural tourists, and you can book tickets only at 2, New Square, Lincoln's Inn; but when you get there (if you take an introduction from Mr. Anthony Hope), the natives will tell you of the Prisoner of Zenda, and you may perchance make a measured drawing of Rudolf's tomb.

Finally, I have to express to you my sincere condolences on a severe loss which you (and, indeed, I) have suffered this evening. The fact is, that I am to be regarded merely as an unhappy makeshift. A Paper on leadwork should instead have been read to you by your distinguished Fellow Mr. Lethaby, who is to me, as to all interested in leadwork, both the law and the prophets. Had Mr. Lethaby discoursed to you, he would have presented to you the philosophy of leadwork in the luminous fashion which is his happy gift. He would have shown you the spirit of leadwork. I, save in the case of the Bleiern Kirche, have but paraded before you its bones.

I am greatly indebted for permission to reproduce photographs to Miss E. Morton (Almondsbury), A. R. Goddard, Esq. (Ickleton), B. H. Bedell, Esq. (Lincoln parapet). The Branton and Exeter prints are from my collection of leadwork photographs taken by Mr. W. Galsworthy Davie. The Ryton print is by Messrs. Valentine.

DISCUSSION OF THE FOREGOING PAPERS.

Mr. EDWIN T. HALL, *Vice-President*, in the Chair.

COLONEL LENOX PRENDERGAST [*H.A.*], who rose at the instance of the Chairman to move a vote of thanks for the Papers, said he should like to adopt in a different sense the words that fell from the last speaker at the opening of his most interesting lecture, viz., that he had undertaken the subject before them, not as an architect, nor as a worker. He confessed that he found himself in the same position, without the knowledge of which they had just had so faithful an exposition. The subject brought before them that evening had been to him of the greatest possible satisfaction, for it was a little out of their usual groove. Many came to their meetings who knew as much as was being told them; but he doubted if there were many present who knew much about leadwork in its artistic sense; yet there were few great architectural works throughout Europe that were not indebted for their beauty to the utilisation of various forms of leadwork. The uninitiated little knew the extreme value of the material used architecturally. He himself was not an architect; he had, however, the honour of being an Associate of their great Institute, and therefore might be presumed to have some love for the art; but he never went down to Westminster without wondering that this great country, which possessed one of the most interesting and most remarkable halls, that had existed nearly five hundred years, could leave it standing in front of the great Abbey, with its present ramshackle roof, instead of the glorious leaden roof that ought to replace it. It was astounding to him that a country which professed to have some love for art and for architecture should be unable to realise that such a splendid building lacked its appropriate crowning, and was absolutely ruined in its present position for want of its leaden roof. The great architect who built the Houses of Parliament never meant in his plans that that hall should show itself; but his masters having chosen to alter his plan, and to expose the building, their first duty was to give it a leaden roof, which alone could make Westminster Hall look what it ought to be. The Papers had given them most valuable information in the first instance on the technical side, and, in the second, although it was modestly repudiated by the lecturer, on the architectural side also; they would prove, he was sure, of the greatest possible service to architects. As regards Chesterfield spire, it was now fifty years since he first saw it, and he noted the epithets applied to it that evening as to its inebriated twistings. He had years ago endeavoured to ascertain the reason of its extraordinary form,

and the conclusion he had arrived at from the information he had been able to obtain from local experts at the time was that the thing was deliberately done. He doubted if any twistings by nature could have produced it. This double-barrelled lecture, as he might call it, appealed particularly to him, and he had come down at some trouble expressly to hear it. They had had both sides of the question put before them in as able and pleasant a manner as it was possible to receive it, and he begged to move that they offer their best thanks to the lecturers.

Mr. H. V. LANCHESTER [*A.*], in seconding the vote, said there were two points about which he should like to ask questions. It would be interesting if Mr. Troup could give them a little more information as to the exact method of tinning, or the application of other metals to lead. The other point was raised by Mr. Weaver—viz., as to a suitable method of putting lead on a construction other than wood. That would be a great help to them. It was not necessary to plead the cause of lead before architects: they all liked it, particularly for the fine conjunction it made with certain stones, such as Portland stone. The beautiful harmony of colour between old lead and Portland stone was not obtainable by any other such dissimilar materials. What he desired to know was whether they could get a thoroughly fire-proof construction, like reinforced concrete, and attach lead to it in a satisfactory way. Mr. Troup had had more experience in the material than most of them; and they would be glad to have the result of his researches.

Sir CHARLES NICHOLSON [*F.*] said he should like to know what timber was used at Chesterfield. He always understood that the twisting of the steeple was due to the green timber used in its construction. Possibly a good deal of elm might have been used in it, and elm was very apt to twist and curl up. If elm was used, that would account for the twisting.

Mr. C. HARRISON TOWNSEND [*F.*] said he wished very heartily to support the vote of thanks. Reference had been made to one who was well known as an artist who had helped very much to revive the interest in the craft of working in lead—viz. Professor Lethaby. A still earlier worker in the field was the late Mr. Eden Nesfield. Those who, like himself, had been privileged to work alongside Nesfield would remember how keenly he sought to revive the interest in lead and to make artistic use of it, and this, too, at a time—some twenty-five or thirty years ago—when the material was simply used for

plumber's work. He remembered, for instance, a work at Babbicombe, he thought—but Sir Charles Nicholson could confirm him in this—where Neesfield introduced lead cornices with moulded and cast incidents supporting them at intervals, a lead parapet divided into panels, of which each was enriched with a different *motif*, and which ran the whole length of the building. This, he repeated, was at a time when lead was by the rest of his fellow architects undreamt of as a material to do anything but cover a lead flat with. He was glad of the opportunity to draw attention again to the work of one who was a master in his art, but whose work had not received the recognition one might have hoped it would.

Mr. MAURICE B. ADAMS [F.] said it occurred to him the other day, in dealing with a matter where lead and iron came together, that it would not be a bad thing to utilise uralite. He proposed to use uralite in this case as a material to insulate the iron from the lead. He did not know whether Mr. Troup had ever thought of that, or whether anyone else had so used it; but he (Mr. Adams) would suggest that the necessity of keeping lead away from iron might be readily overcome by strips of uralite. This material was extremely hard, and could be screwed through and out like wood. It was composed of asbestos, and he thought no chemical action could possibly take place between the lead and the iron with a sheet of uralite intervening. It was always well to keep such new materials before one. He could well imagine that in a spire of steel or reinforced concrete, as Mr. Lanchester had suggested, where the steel would necessarily creep up more or less towards the surface, and where it would be perhaps unwise to use lead without some intervening material, uralite might be usefully employed. The necessity of protecting sheet lead against the action of oak was never more forcibly demonstrated than in the new lantern over the crossing at Ely Cathedral. A comparatively short time after that was put up, if he remembered rightly, the lead was so disintegrated that it all had to be re-erected. He was sure that no one could speak on an occasion like the present without offering sincere congratulations to the lecturers, and also to the Institute, for having brought about so very pleasant and valuable an opportunity for discussing an artistic and practical subject.

Mr. E. W. HUDSON [A.] said he should like to be associated with the vote of thanks. They had all thoroughly enjoyed the lectures, and the examples that had been brought before them were to many quite new. He was very much interested in the more ornamental spires, and particularly in East Harling; and when it was followed up by such a splendid idea as that given in Sir Charles Nicholson's drawing, it threw a light on what had been to him a problem, until Mr. Starkie Gardner suggested that it was a leaded construction, in the

Paper on the same subject read two years ago, when he (the speaker) offered some remarks.* He referred to the tower and spire of the home of the Knights Hospitallers in England, which was described by Stow as being "a great ornament to the City the like of which he had never seen: it was graven gilt and enamelled," and it had puzzled him for a long time to conjecture what the material could be. But looking at Sir Charles Nicholson's drawing it struck him that there could be no other explanation of the magnificent structure which was destroyed by the notorious Protector Somerset in order that he might use the stone for building his palace in the Strand. He did not know of any other record of a similar structure in this country. With regard to the suggested use of steel spires covered with lead, that might be very honest construction, but Heaven forbid they should ever repeat what they saw at Rouen and at Cologne, where, after the timber spire was destroyed, cast iron was used as a substitute. In Mr. Lethaby's work views were given of fonts and other things which were only conjecturally fonts, cast lead vessels with handles of which the use was not clear. Perhaps Mr. Troup might remember those illustrations and be able to tell them what they were for. When the Templars' goods were seized in the Temple in 1307, by order of the King, in the inventory of goods given up were items found in the brewery—*e.g.*, "one lead, 40s.; one lead, 30s.; one lead, 10s." He had never been able to make out what those articles could be. They possibly were not ingots, the valuation was too high, and odd pieces at 8d. each were also recorded. They might be something in the nature of a cistern or tank, because the value of money at that time was very considerable. It would be a matter of interest to know whether these were lead cisterns or tanks used for brewing purposes. There was another use of lead which had not been mentioned—*viz.*, for insignia in interments. There was the instance of Abbot John Dygon, 1509, who had been buried with, not only leaden episcopal rings, but with a leaden paten, chalice, and mitre: these objects had been found with the remains of the skeleton when it had been unearthed centuries later. The objects were most elaborately coloured and gilt: it seemed altogether a novel way of using lead.

THE CHAIRMAN, in putting the vote of thanks, said he should like to tender his personal thanks to the gentlemen who had read such very interesting Papers. The practical details Mr. Troup had given were of very great value, and the beautiful enamelled work he showed was highly interesting. An art like the latter that had almost died out he hoped might be revived, for it contained in itself a permanent decoration which would be far better than many of the enamels now used; like that, for

* Vol. XI. B.L.H.A. JOURNAL, pp. 149, 156.

instance, in the drinking-fountain at Westminster. Mr. Weaver's Paper—which, if he might be allowed to say so, was most wittily delivered—was in itself a very poetical Paper, dealing with a very poetical subject. It was a most fascinating illustration and description of some of the fine church spires we have in England. As his Paper was confined to spires, he naturally did not refer to the many other ways in which leadwork had been used for decorative treatment. It was a moot question whether the great Nonesuch Palace had its decoration in leadwork or in plaster. Authorities differed on that point. It had been asserted that its very elaborate decoration was all in cast lead. Lead had been used in many other ornamental ways. Some of the beautiful old cisterns were quite works of art, and displayed an architectural knowledge and craftsmanship on the part of the plumber who made them which was highly commendable. With reference to the use of lead on steel there must be some disconnecting material, or galvanic action and corrosion would take place, which would create great evils. When he used lead he generally put felt in as the intermediate material; this, he thought, was a very safe non-conductor. With reference to Chesterfield, which Colonel Prendergast held to be originally designed as it now appeared, they had heard of eccentric architects, but he could not imagine that any architect could have designed Chesterfield spire as they saw it to-day. If he did, they should look upon him as rather a crazy person. It was interesting because it was so twisted, and because it stood without falling; for it was said to be something like 3 feet 6 inches out of the vertical. As Sir Charles Nicholson had suggested, it was usually attributed to the new timber in its construction which had twisted very badly, and had remained intact probably because it was thoroughly well put together, and the oak dowel and pins with which it was held together kept it from falling.

Mr. F. W. TROUP, answering some of the questions, said that with regard to tinning he would read a description given by Burges. He did not know how he (Burges) got hold of it—possibly from questioning workmen in France. M. Félibien, in his seventeenth-century book on "Plumber's Work in France," has the following description of tin as used in covering lead sheets: "When plumbers wish to tin sheets of lead they have a tinning furnace full of hot charcoal, on each side of which a man stands holding up and heating the sheets of lead. Leaves of tin-foil are laid over these, and as the sheets get hot and the tin melts the tinning is accomplished by rubbing and spreading it over the surface with tow and resin." That was very much as one would tin the inside of a saucepan. Burges's description was as follows:—"The next thing, of course, was to fix the lead in the position it was designed to occupy; for the tinning was done in the workshops, although

occasionally it was performed when the lead had been up many years." That is to say, there was nothing to prevent the lead being tinned after it was fixed on the spire or roof, or wherever it was, although it is much easier to do it in the workshops. "Thus," continues Burges, "the spire of Notre Dame at Châlons-sur-Marne was probably constructed in the fourteenth century; but we must refer the tinning to at least a century later. In this case the process was the same, only much more tedious, as the workman was only able to apply so much tin as the end of his axe-bit would take up." That is to say, he had his axe-bit, which was a copper bit for melting the tin, shaped like an axe, and he rubbed it on a brick, or something of that sort, where he had the tin lying; he picked up as much tin as he could get and plastered it on the surface of the spire, only tinning quite a small piece at a time. The consequence was the tinning was quite rough on the surface when it was done *in situ* in that way. "Accordingly," says Burges, "we find the work in the instance under consideration very coarse and rough, contrasting strongly with that on the dormer window at the east end of the same church. All the leadwork of the roof was more or less susceptible of this decoration; but it was generally confined to the more ornate parts, such as the bases of the girouettes and the dormer windows, but more especially to the ridge pieces, which latter contrasted well with the long dark body of the roof, which was left plain." Burges then describes the workshop process. "The process of tinning is thus performed. The lead being first of all covered with a tolerably thick coating of lamp-black and size, and the pattern traced with a point, all that part of the surface to be tinned is removed with a shave-hook so as to leave it clean and bright; a little sweet oil is then rubbed over, and the solder applied and thinly spread with a copper bit in the usual manner." That, continued Mr. Troup, was the way it was usually done now. The lead is covered with plumber's soil, as they call it, and the parts the tin is to be applied to are cleaned out. Solder is almost as good as pure tin if good solder is used, because when the tin itself becomes amalgamated with the surface of the lead it practically becomes solder, as it absorbs a certain amount of the lead and alloys itself with it. There is another way in which it can be used ornamentally: instead of covering the lead with plumber's soil and then scratching out the shape desired to be tinned, it can be done by cutting out the ornament in paper and pasting that on to the surface of the lead after having cleaned the whole surface. The tin is then applied on the solder in the same way as before, and of course it attaches only to the parts of the lead which are exposed. That, he believed, was the way that some part of the roof of Hatfield House had been ornamented. The marks of the edges of the brown paper where the tin stopped could actually be seen.

That was the process of tinning on lead, and one could easily understand it was very much easier to do it in the workshop before the lead was fixed than to do it *in situ* after it was on the roof. There was no great difficulty about fixing lead upon another base than woodwork. Modern milled lead was usually softer than the old cast lead, which was thicker to begin with, which made it stiffer, and the result was it could be hung on to a piece of iron without the danger of its folding down in the sun and hanging down like a piece of wet cloth, as the modern thinner lead does; and they constantly supported lead simply with iron hooks or an iron framework without any protection in the way of felt or anything else. So long as there was no leakage in the lead, allowing the water to come in and get between the lead and the iron, there was no great harm, because the galvanic action did not take place when the two metals were dry. As regards the use of felt, if the water got in he was afraid the felt would not be much good. It was quite possible to make a good galvanic battery with a pile of coppers and zinc with felt between them so long as they were wet. Viollet-Le-Duc says it is almost impossible to keep the acid in fresh oak from attacking the under surface of the lead. It can be covered with paint or varnish, and even with molten resin; but the pyrogallic acid, or whatever it is, comes through almost everything and attacks the lead, such is the avidity with which the acid seems almost to seek for the lead. He did not think there was any way of getting over that difficulty except to wash it out of the oak before it was used, and so get rid of it. He should think uralite would be a very good basis for lead; it was probably unnecessary in cast lead because it was so much stiffer; it would hang on a framework instead of having to be supported all over as a modern roof is. The boarding in some of the French cathedrals was not continuous. One could see the insides of a good many of them—Beauvais was the last he saw—and the oak boards appeared to be only four inches wide, with perhaps three inches between them; the underside of the lead could be seen from the inside of the roof. That was a very common way. It was a very good thing in other ways, because it allowed the air to pass through the spaces and keep the wood more ventilated. That was quite possible with the old thick cast-sheet lead; whereas with modern lead, if it were only 7-lb. lead, or something like that, it would show on the outside; it would sag down between the supports if they were anything more than an inch apart; in fact, one very often does see the marks of the joints in the boards in ordinary leadwork, especially in gutters and places like that. With regard to ironwork as a framework for roofs, the roof of Chartres Cathedral was ironwork from end to end; it was not covered with lead, but with sheets of copper. The copper

sheets were hung between ribs of iron, not steel; it was done about sixty or seventy years ago, before steel began to be used. The Rouen spire that was referred to had no lead at all; it was simply a skeleton of cast iron. It could easily be covered with lead if there were any desire to do it. With regard to lead for tanks for breweries he should think it would be rather dangerous to use lead for such purposes, because the acid in the beer would attack the lead and dissolve it, making it poisonous. The French Government have a regulation about pewter. They do not allow more than one third lead in pewter—common kinds of pewter which are used in public-houses—the rest must be tin. Beyond that proportion the acid in the beer or cheap wine begins to take effect upon the lead, and lead-poisoning ensues.

Mr. LAWRENCE WEAVER, referring to the twisted spire of Chesterfield, said he did not think anybody could possibly have perpetrated such a grotesque practical joke as to build a spire in that way; moreover, it was not at Chesterfield alone that there was a spire which was twisted badly. There was a little spire in Norfolk, at Walsingham, which was nearly as bad; but as it was not such a big spire it did not show so much. With regard to the material between the steel spire and the lead covering, he had himself thought of uralite, and believed that it would do very well. There must be plenty of materials which would answer all the purposes, and which would not burn—which was the great thing. He quite appreciated the importance of the late Eden Nesfield's work, but what he felt about Mr. Lethaby was, that he was the only person who had written a book on the subject. There were an enormous number of people who would never have known there was such a thing as artistic leadwork if it had not been for Mr. Lethaby's book—he himself should not, for one. But once pick up this little book, it was so charmingly written that it stimulated one's interest and set one making all sorts of researches. With regard to the little vessels in Mr. Lethaby's book referred to by one of the speakers, there was one vessel there which had triangular ornaments on it, and iron handles. Mr. Lethaby called it an Anglo-Saxon vessel; it was not a font, but was probably a large salt, possibly from a monastery. He had discussed the matter with the greatest living authority on fonts—Dr. Alfred Fryer—and he suggested a salt. There was a small vessel at Gloucester which had the Deposition from the Cross on its four faces: it was extremely delicately moulded, and had little bands of floral ornaments and the emblems of the Passion. It could not be a font, for it never had a cover. It was too large to be a vessel for the ablutions at Mass. He thought it might possibly be a stoup. There were twenty-seven lead fonts. With regard to the question of interments there were certainly a great number of lead patens. He did not know of the

nitre, and he was glad to know of it. Patens and chalices of lead were used often. If a paten or chalice of lead were gilded, anybody who was a long way off could not tell that it was not gold, so the mourners got the benefit of being generous without the cost. From the very earliest times when there were votive offerings in honour of the dead they had constantly been frauds. There were some very interesting things to which Mr. Hudson had not referred, viz., lead burial crosses. Nobody who had any self-respect in the middle ages was buried without a pectoral cross round his neck. Even in times of great national stress, as during the Black Death, everybody had a cross, and they were often made of lead. When they were digging on the site of Christ's Hospital recently Mr. Hilton Price, the Director of the Society of Antiquaries, came upon a most extravagant find of lead crosses. There were scores of them, none of them in the least bit decorated—very plain, rough pieces of lead just chiselled out of the sheet, evidently made in a great hurry, as people were dying rapidly. Finally, with regard to what had been done in leadwork and what had been written upon it, he thought that, after all, Burges must have the earliest credit, for he was earlier than Mr. Lethaby, and earlier even than Eden Nesfield.

SIR CHARLES NICHOLSON, writing since the Meeting, says:—

The following fact escaped my memory at the time of the meeting, but it has since occurred to me that it may be of interest in connection with Colonel Prendergast's remark about Westminster Hall roof. In one of the volumes of the *Gentleman's Magazine* about the beginning of last century there occurs a strongly-worded protest, probably written by John Carter, the well-known antiquary, against the removal of the old lead from the roof of Westminster Hall, and the substitution of slates. From this it would appear that this vandalism was committed about the time when the old Law Courts were built by Sir John Soane, though it cannot be said for certain that he was the culprit, since one of the Wyatts was also employed upon the Palace of Westminster about this period. Probably the dormers were inserted in the old roof at the same time that the slates were put on.

It should be remembered, in justice to Soane and his contemporaries, that in their day the Hall was more or less masked by buildings on both sides, so that the ugliness of its big slated roof was less apparent than it is now that the old buildings on the west side of the Hall have been replaced by the comparatively low annexes designed by the late J. L. Pearson.



9, CONDUIT STREET, LONDON, W., 24th March 1906.

CHRONICLE.

Prizes and Studentships 1907.

The pamphlet giving full particulars of the Prizes and Studentships in the gift of the Institute for the year 1907 is issued to members with the present number of the JOURNAL, and is on sale at the Institute, price 3d. The total value of the Prizes, exclusive of Medals, amounts to £494 5s. The prizes and subjects are briefly as follows:—

THE ESSAY MEDAL AND TWENTY-FIVE GUINEAS, open to British subjects under the age of forty.—*Subject*: "The Influence of the Use of Iron and Steel on Modern Architectural Design."

THE MEASURED DRAWINGS MEDAL AND TEN GUINEAS, open to British subjects under the age of thirty.—Awarded for the best set of measured drawings of any important building—Classical or Medieval—in the United Kingdom or Abroad.

THE SOANE MEDALLION AND ONE HUNDRED POUNDS, open to British subjects under the age of thirty.—*Subject*: Design for a large City Hotel facing a Public Square.

THE PUGIN STUDENTSHIP: SILVER MEDAL AND FORTY POUNDS, open to members of the architectural profession (of all countries) between the ages of eighteen and twenty-five.—Founded to promote the study of the Medieval Architecture of Great Britain and Ireland, and awarded for the best selection of drawings and testimonials.

THE GODWIN BURSARY: SILVER MEDAL AND SIXTY-FIVE POUNDS, open to members of the architectural profession without limitation of age.—Founded to promote the study of works of Modern Architecture abroad, and awarded for the best selection of practical working drawings, or other evidence of special practical knowledge, and testimonials.

THE OWEN JONES STUDENTSHIP: CERTIFICATE AND ONE HUNDRED POUNDS, open to members of the architectural profession under the age of thirty-five.—Founded to encourage the study of Architecture more particularly in respect to Ornament and Coloured Decoration. Competitors must submit testimonials, with drawings exhibit-

ing their acquaintance with colour decoration and with the leading subjects treated of in Owen Jones's *Grammar of Ornament*.

THE TITE PRIZE: CERTIFICATE AND THIRTY POUNDS, open to members of the architectural profession under the age of thirty.—*Subject*: A Design, according to the Principles of Palladio, Vignola, Wren, or Chambers, for a Loggia for Sculpture to screen the blank end, 150 feet long, of a building.

THE GRISSELL GOLD MEDAL AND TEN GUINEAS, open to British subjects who have not been in practice more than ten years.—Founded to encourage the study of Construction. *Subject*: Design for a Grand Stand constructed of timber on a Racecourse, to accommodate 1,000 people in the boxes and 3,000 on the roof.

THE ARTHUR CATES PRIZE: A SUM OF FORTY GUINEAS, open to British Subjects who have passed the R.I.B.A. Final Examination at one sitting during 1905 and 1906.—Awarded for the best set of testimonies of study submitted for the Final Examination, and for studies of Classical or Renaissance, and of Mediæval Architecture.

THE HENRY SAXON SNELL PRIZE: A SUM OF SIXTY POUNDS, open to any member of the architectural profession (who may associate with him any member of the medical profession).—Founded to encourage Study of Improved Design and Construction of Hospitals, Convalescent Homes, and Asylums for Aged and Infirm Poor. *Subject*: A Critical Report on Hospitals for the Treatment of Consumption.

THE ASHPITEL PRIZE: BOOKS VALUE TEN POUNDS.—Awarded to the student who distinguishes himself most highly in the Institute Final Examinations 1906.

Joint Committee on Reinforced Concrete.

At the instance of the Science Standing Committee a Joint Committee has been formed of members of the Institute and other bodies interested, to draw up rules for the guidance of architects in the use of Reinforced Concrete. The Committee, which is presided over by Sir Henry Tanner, is made up as follows:—

Representatives of the R.I.B.A.: Messrs. T. Walmisley, William Dunn, Max. Clarke, H. D. Searles Wood.

District Surveyors' Association: Messrs. Thomas Henry Watson and E. Dru Drury.

Institute of Builders: Messrs. Benjamin I. Greenwood and Frank May.

Incorporated Association of Municipal and County Engineers: Messrs. A. E. Collins and W. Cockrill.

War Office: Colonel C. B. Mayne and Major E. M. Paul, R.E.

Other members: Professor W. C. Unwin and Mr. Charles F. Marsh.

The Further Strand Improvement Scheme.

At the Meeting last Monday, before the regular business was proceeded with, Mr. Maurice B. Adams [*F.*] asked if the Chairman would explain why the Institute was not represented on the Strand Further Improvement Memorial, which had been sent that afternoon to the London County Council. The Institute had taken a very prominent position with regard to the matter, and he noticed that almost every other Society was mentioned, but the Institute was not.—The Chairman (Mr. Edwin T. Hall, *Vice-President*), in reply, stated that the Institute Council had decided not to take part in the particular movement to which Mr. Adams referred because they had already made their own representations to the County Council, and had only quite recently been in communication with them, urging views in the same direction as that recommended by the Institute about a year ago.

The meeting referred to by Mr. Maurice B. Adams was held at the Royal Academy on Monday afternoon, the 19th inst., Sir Edward Poynter, P.R.A., in the Chair, its object being to consider the Memorial to the London County Council in favour of the scheme of the Further Strand Improvement Committee. Among members of the Institute present were Lord Plymouth [*H.A.*], Sir Wm. Richmond, R.A. [*H.A.*], Sir Aston Webb, R.A. [*F.*], Mr. T. W. Cutler [*F.*], Mr. Maurice B. Adams [*F.*], and Mr. Mark Judge [*A.*], Secretary of the Further Strand Improvement Committee. The Memorial stated that the Gladstone monument, now erected at its allotted point, intensifies the need of the alteration for which appeal is made. The monument is so placed that it makes the eastern end of the site between Aldwych and the Strand still more awkward to eastward traffic. The Memorial proceeded: "To state concisely our objection to the plan adopted, it is that, between the two churches, the north side of the Strand, instead of being planned so as to give the roadway its natural course direct to the Courts of Justice, deviates some 60 feet towards the south, thus forming a barrier between the portions of the Strand east and west thereof. Our reasons are that (i.) we consider the plan is in itself an ugly, distorted figure; (ii.) when buildings are erected on the site, these will obliterate from the west the view of the Courts of Justice and the church of St. Clement Danes, and from the east that of the church of St. Mary-le-Strand; (iii.) being at an angle encroaching upon the church of St. Mary-le-Strand, the buildings will mar the beautiful aspect of that church from wheresoever viewed; (iv.) the angles of the roadway are awkward and dangerous to traffic. We submit, therefore, that the matter should be considered from the point of view, not only of what is for the moment financially desirable, but also of what is befitting the dignity of the capital of our Empire." The memorialists

further contended that the alteration is essential, and, moreover, would materially enhance the value of the frontage, thus to some extent compensating for the reduction of building area. The memorial concluded:—"As pointed out in the report of the Royal Commission on London Traffic, Paris, New York, Washington, Berlin, Brussels, Vienna, have streets finer than any that London can show. We ask, Is London, by want of determination to overcome minor difficulties, to refuse this opportunity of showing itself in reality an Imperial city, a worthy capital of a world-wide Empire? We are unwilling to think so, and trust you will seriously reconsider the plan as at present adopted, and grant our appeal."

Sir Edward Poynter and Mr. Mark Judge having addressed the meeting,

Lord Plymouth moved the following resolution: "That, in the opinion of this meeting, the Memorial of the Further Strand Improvement Committee, the Royal Academy of Arts, and other corporate bodies makes a clear case against the plan adopted for the building land between Aldwych and the Strand, and that the London County Council be requested to receive a deputation charged with the duty of presenting the Memorial." He was convinced, he said, of the importance of the London County Council's reconsidering the Strand improvement scheme. This scheme for the improvement of London was larger, he believed, than any that had been undertaken since the Great Fire in 1666. We were now laying down the line of our east-to-west thoroughfare, with which untold millions of people in the many years to come would become familiar, and they would hold the present generation responsible if the Strand had a blot upon it which for centuries at least might impair its dignity and architectural effect. No practical body of men could disregard the question of expense, and those who had signed the Memorial did not desire for one moment to ignore it. But they wished that it should be weighed carefully with other considerations. It was surely a short-sighted policy, in order to secure some immediate advantages to the present ratepayers, to shut their eyes to great subsequent advantages, and even pecuniary advantages, that would accrue if the lines of the thoroughfares and buildings were laid out on a dignified scale.

Mr. Harold Cox, M.P., seconded the motion.

Mr. Frederic Harrison, who was Chairman of the Improvements Committee of the Council when the original scheme of the Strand improvement was planned, supported the resolution.

Sir Aston Webb, R.A., said that the Royal Institute of British Architects felt very strongly that a great mistake would be committed if some alteration were not made in the alignment proposed. All his brother architects felt, as he did, that they could not appeal too strongly to the London County Council to make some alteration in

the line, and give London a magnificent thoroughfare from Charing Cross to St. Paul's Cathedral.

Sir William Richmond, R.A., remarked that if they succeeded in persuading the County Council that it was dealing with a matter which belonged to generations to come, and was not a matter of a decade or two, they would do much to induce that body to appoint a small but thoroughly representative art standing committee through whose hands all metropolitan schemes must pass.

The resolution was adopted unanimously.

The London County Council, at their meeting the following day, Tuesday, 20th inst., adopted a recommendation of their Improvements Committee to lease the central portion of the crescent site to a syndicate for ninety-nine years at a ground rent of £55,000 a year. Sir Melvill Beachcroft asked the Council to add the following words to the recommendation: "And that the building line at the south-east end be such as the Council may determine, having regard to the alignment which the Council may fix hereafter." This was ruled out of order, it being stated that the matter would have to be dealt with as a separate proposal. Mr. Allen, M.P., at the same meeting presented a petition from Sir E. Poynter and a large number of influential persons praying that the alignment of the Strand near Aldwych might be so revised as to preserve an uninterrupted view of the Law Courts.

The Chairman of the London County Council, in a letter to Mr. Mark Judge on the 20th March, says: "You may depend that the very important resolution passed by such a distinguished body—the members of the Royal Academy—will receive the very earnest attention of the Improvements Committee who have the matter in hand."

Aldwych Building Scheme.

The following particulars are given of the buildings proposed to be erected on the central portion of the island site in the Strand by Aldwych:—It is proposed to erect on the central portion of the site a stone building of commanding architectural features. This building will contain large galleries for use in a permanent exhibition of arts and manufactures; it will also contain a theatre, a concert hall, and a restaurant. Beyond the central block of buildings the site will be enclosed by shops with basements, ground floors, and two floors above. There will be seventy-eight shops on the ground floor and seventy-eight on the first floor, while the second floor will be let for commercial purposes. The promoters have undertaken to spend not less than £500,000 in the erection of these buildings. They state that negotiations have already been begun for letting portions of the buildings, and that they have no doubt as to the disposal of the whole to substantial tenants. There will be no larger area between the shops and

the central building than that which is necessary to provide for the access of light and air. The plans, elevations, and specifications of all the buildings will be entirely subject to the Council's approval. The lease will be in the Council's usual form, subject to such modifications as may be necessary for the special undertaking, and will give the Council entire control as to the uses to which the buildings will be put, and also the right of re-entry if the buildings are put to any other use than that sanctioned when the lease is taken up.

Royal Sanitary Institute Congress.

The Twenty-third Annual Congress of the Royal Sanitary Institute is to be held at Bristol, from the 9th to the 14th July, under the Presidency of the Right Hon. Sir Edward Fry. Messrs. Edwin T. Hall [F.] and G. H. Oatley [F.] (of Bristol) have been appointed by the Council to represent the Institute. Mr. Edwin T. Hall will act as President of Section II. Engineering and Architecture.

The late William Gibbs Bartleet [F.].

Mr. W. G. Bartleet, whose death occurred on the 10th inst., was one of the oldest members of the Institute, having joined as an Associate in 1858 and been elected Fellow in 1869. Mr. Bartleet was born in 1829 at Handsworth, near Birmingham, and was educated there. His father however subsequently settling in London, he was articled to the late John Walker, of 69 Aldermanbury and Gresham Street, City. At the expiration of his articles in 1850, he spent some years in an architect's office in Chichester, and afterwards returned to London and set up on his own account in Pinner's Hall, Old Broad Street. He soon laid the foundations of what eventually grew into an extensive general practice in London and surrounding counties, erecting a large number of business premises, residential flats, factories, warehouses, banks, and many country houses, chiefly in Essex, Kent, and Surrey. He was also responsible for several new churches and restorations. Among his chief commissions may be mentioned Holfield Grange, Essex; Woodlands and Grange Hill, Chigwell Row; Presdales, Ware; Hill House, Upminster; Long's Hotel, Bond Street; Bush Hotel, Shepherd's Bush; Vicarage, Brentwood; Shenfield Schools. He carried out alterations and extensive additions to Blackdown House, Haslemere, an old sixteenth century mansion. He was chosen as architect for the rebuilding of St. George's Church, Beckenham, the tower of which was only completed about eighteen months ago, twenty years after the church building operations were commenced. He held several surveyorships at different periods of his practice, including that of the Metropolitan Dispensary, Fore Street, and the Pollen and other trust estates, and was also assessor

to the Southwark County Court. He erected many country branches for the London and County Bank and depots for the Aërated Bread Company. He was for many years treasurer for the Beckenham Cottage Hospital. The new wards and also the children's ward in memory of Queen Victoria's Jubilee were built under his direction. His son, Mr. Sydney F. Bartleet, himself a Fellow of the Institute, had been in partnership with him during the last fifteen years. On the occasion of the funeral, which took place at Shirley Churchyard, a wreath was sent from the Institute as a mark of sympathy with the relatives in their bereavement.

Architects' Benevolent Society.

The Annual General Meeting of the Society was held on 9th March, Mr. J. Macvicar Anderson presiding, in the absence, through illness, of the President, Mr. John Belcher, A.R.A. The Annual Report was adopted as follows:—

The Council in presenting the Fifty-fifth Annual Report of the Architects' Benevolent Society have to express regret that, judging by the number of claims made upon the Society, the past year seems to have been one of exceptional difficulty for many of the less fortunate members of the architectural profession. Towards the middle of the year it was found that the demands made upon the Society were beginning to outweigh the funds at the disposal of the Council, and that it was necessary to consider means by which the income could be increased. The President (Mr. John Belcher) acceded to a suggestion that he should issue a personal letter of appeal, and this was sent out to 5,280 architects practising in the three kingdoms. The President directed attention to the fact that, although this Society had been in existence for over fifty years, and was the only institution organised specially for the relief of architects or their widows and orphans, not more than 1 per cent. of architects in active practice contributed to its support. As the income had suffered in recent years from the loss of many liberal contributors, the President appealed particularly for subscriptions. Compared with the support hitherto accorded, the result of the appeal must be considered satisfactory, the subscriptions having been increased some 20 per cent., while a considerable sum has been added to the capital. The grateful thanks of the Society are due to the President for the active interest which he has taken in this matter, and it is hoped that the effect of his letter is not yet exhausted.

In connection with the appeal, the Council wish specially to call attention to an offer of a donation of £50 by Mr. Walter Emden if nine other contributions of an equal amount are received. Mr. Emden's offer has so far been supported by Mr. William Glover, Mr. H. Chatfield Clarke, and the Society of Architects.

In answer to many suggestions received during the year, by which the objects of the Society might be made more widely known, the Council desire to point out that over two thousand Red Books are distributed annually, and that advertisements appear from time to time in the professional journals. The result, however, is not sufficiently encouraging, in the Council's opinion, to justify further expenditure in this direction. The greatest benefits accrue to the Society from the personal interest and influence of its members. Too much emphasis cannot be laid upon the fact that where circulars and advertisements fail, the individual propagation of the aims and needs of the Society succeeds.

The total amount of subscriptions received during the year was £615. 19s. 6d. (last year £539. 5s.); the donations amounted to £765. 17s. (last year £143. 1s.). The Society's investments were increased by the purchase of £600 New Zealand Three per Cent. inscribed Stock at a cost of £531. 16s. To meet the claims of applicants, it was found necessary to transfer £140 received in response to the President's appeal (which was made especially to relieve current needs) from Capital to Income Account.

The amount of £1,000. 9s. was distributed in grants and pensions. The number of applicants, apart from pensioners, was eighty-six, out of which eighty were granted assistance.

Through the courtesy of Mr. John Holden, the Society's honorary local secretary at Manchester, the Council have been informed that Mr. Alexander W. Mills, of Bowdon, Cheshire, an old subscriber, has bequeathed to the Society £500. Further bequests of £21 from the late Mr. C. Forster Hayward, and two Architectural Union Company's shares from the late Mr. H. H. Collins, have also been received.

It is with great regret that the Council have to record the death of these members (Mr. Collins was also a member of the Council at the time of his death), as well as of Mr. Alfred Waterhouse, Mr. J. T. Wimpey, and Mr. G. Fowler Jones, all old subscribers.

The Council desire to express their appreciation of the kindness of the committee of the A.A. Students' Smoking Concert in devoting part of the proceeds of the concert on 2nd February to the funds of the Society, the amount received being £12. 12s.

To meet the wishes of corporate bodies, a Resolution will be submitted by which such bodies may be represented, subject to the fulfilment of certain conditions, on the Council and at general meetings by their Presidents for the time being, and granted the same privileges with regard to the recommendation of applicants for relief as possessed by individual members.

Seven meetings of the Council have been held during the year.

Owing to the absence of Mr. Graham C. Awdry from London, Mr. Edward Greenop kindly undertook the auditing of the accounts with Mr. Sydney Perks.

Mr. S. D. Kitson, M.A., has consented to act as Honorary Local Secretary at Leeds.

The following gentlemen, being the five senior members, retire by rotation from the Council: Mr. Edwin T. Hall, Mr. Lewis Solomon, Mr. Wm. Woodward, Mr. H. H. Collins (deceased), and Mr. T. E. Collicutt. To fill the vacancies caused by these retirements, the Council have the pleasure to nominate: Mr. Arthur Ashbridge, Mr. Walter Emden, Mr. Reginald St. A. Roumieu, Mr. H. Chatfield Clarke, and Mr. Alfred Saxon Snell.

The thanks of the Society are due to the Royal Institute of British Architects for office accommodation, and for the use of rooms in which to hold their meetings, and to the Secretary (Mr. Locke) and his staff for their helpful courtesy in all matters connected with the Society.

Thanks are also due to the editors of the professional journals for the space which they have granted to the Society's proceedings and for sympathetic references to its work and objects.

The Chairman, in the course of some remarks at the meeting, said he hoped that the offers made to give certain sums of money in aid of the Society's efforts, provided that other contributors could be induced to give the same amount, would not be forgotten. What had once been done could be done again, if members put themselves to a little personal sacrifice.

The following is the Council for the ensuing year of office:—President, the President of the Institute; Vice-President, Mr. Wm. Glover; Council, Mr. Rowland Plumba, Mr. G. T. Hine, Mr. Ambrose M. Poynter, Mr. Wm. Grellier, Col. R. W. Edis, Mr. H. L. Florence, Mr. G. B. Bulmer, Mr. F. W. Hunt, Mr. W. L. Spiers, Mr. Arthur Ashbridge, Mr. Reginald Roumieu, Mr. Walter Emden, Mr. H. Chatfield Clarke, and Mr. Alfred Saxon Snell.

The Temple of Onias.

The Times of the 14th inst. has the following notes from a correspondent on the excavations undertaken this winter by the British School of Archaeology in Egypt on the eastern side of the Delta and in the region of Goshen and Succoth:—

Among the problems there one of the most interesting was the search for the site of the Temple of Onias. It is well known how the troubles of the Jews under Antiochus had driven many of them to settle in the east of the Delta, and that, in order to provide a new rallying-point, one of the family of the high priests, Oniah IV., had built a temple on the model of that at Jerusalem. This temple served as a substitute for the shrine desecrated and polluted by Antiochus Epiphanes. The documents quoted by Josephus show that this temple was at the site of an old Egyptian town named Leontopolis, which was dedicated

to the lion-headed goddess "Bubastis of the Fields," that the place was "full of materials," that the temple was built after the pattern of that at Jerusalem, that "a tower of stone 60 cubits high" was erected, and that the whole settlement was granted by Ptolemy Philometor. Thus there were many conditions to be fulfilled in the identification of this site.

It has been generally recognised that the ancient town known as Tell el Yehudiya, eighteen miles north of Cairo, was probably the position, and the Jewish grave-stones found there by Dr. Naville had given strength to this opinion. But the temple had not yet been actually identified. The work of this season has in the first place shown that a lion-headed goddess was worshipped there, as a statue of an admiral of the Mediterranean fleet of Psammetek II. was found, which represents him holding a shrine of the lion-headed goddess. Hence the name of Leontopolis and the dedication to "Bubastis of the Fields" accord with the worship at this site. The description of the place as being "full of materials" for re-use by Onias agrees with there having been an immense stone-lined ditch a mile in length around the ancient town, which would supply material for the new building without using what had been consecrated to idols. Just outside of the ancient town stands an artificial mound, the highest for twenty or thirty miles around. The whole of it has been thrown up at one time; and, on restoring the buildings on it by the remaining indications, it is found that the height must have been altogether over 60 Greek cubits above the plain, agreeing with the 60 cubits of construction named by Josephus. And this mound was thrown up in the second century B.C., as is shown by the pottery in it. On the top were many coins of the time of Ptolemy Philometor, and a sherd with building accounts which bears the name of Abram among others, showing that Jews were employed. . . .

The form of this settlement of Onias was, roughly, a right-angled triangle, the square corner being formed by the north and east sides. At the west acute angle was the entry to it, and at the south point was the summit with the temple. The mound was enclosed on the eastern side by a stone wall, 20 feet or more in height, and 767 feet long, including two bastions at the ends. In the middle of this a high raised stairway, 14 feet wide, led up to the entry of the temple court on the top. The north side of the settlement was low, with a fortification wall bounding it. The diagonal west side was curved inward, and had a great revetment wall, at least 20 feet thick, rising at an angle of 66° or more to a height of over 68 feet, where it supported the temple.

The entrance from the plain at the west end was nearly 150 feet wide over all, and about 100 feet inside. This was fortified with towers and gateways, as we know from descriptions. From here the way ran through an area of three or four acres of houses enclosed in the fortifications leading up to the temple platform more than 68 feet over the plain. The foundation of this ascent remains, and points very closely to the axis of the court on the top. The outer court was 32 feet wide and 45 feet long inside; the inner court was 24 feet wide and 64 feet long. The block of the brick foundation of the Holy of Holies is 55 feet long and 17 feet wide. This is of the same proportion as in Solomon's temple, namely, seven to two; and it shows that the building was laid out with half the number of cubits of the prototype, and by the Greek cubit, which was probably the most familiar to the Jews under the Ptolemies. The architecture was Corinthian, and the front of the courts, or of the temple, had the usual Syrian decoration of rounded battlements. The fronts of these battlements were ornamented with a band of lines which rose from the string-course into each block and returned.

The religious character of the whole place is marked by

the great quantity of sacrifices at its foundation. In the lower part of the mound are found on all sides cylinders of pottery a couple of feet across. These were sunk in the ground, a fire sacrifice was burnt in each, and then the fresh earth was thrown in to smother the fire, in continuation of the heaping of the mound. This is at one with the Syrian sacrifice under a building, and the later form of that known as "lamp and jar burial," familiar from Mr. Macalister's work in Palestine.

Most unhappily, the ravages of the natives digging for earth have barely left the outline of the foundations of the temple; but twenty years ago the walls were standing, and the pavement and pillars were seen here. . . . Such a loss of an historical building, owing to not recording the remains before their destruction, is an object-lesson in the need of thorough research in Egypt. The work will not wait, and every help given to present labours saves what will soon be irrecoverable. Contributions for this purpose should be sent to the Secretary of the "British School in Egypt" at University College, London.

The other work of the British School, beside Professor Flinders Petrie's researches described above, includes his excavation of a Hyksos cemetery and a great fortress of a new type, and his discovery of remains of a temple of Rameses II. in the region of Succoth. The Rev. J. G. Duncan's work has opened a cemetery at Tell Yehud containing burials of the second century A.D., under Syrian or Jewish influence; also he has examined a fortified town of Ramesside age near Belbeys which contains large granaries. He and Mr. C. Gilbert-Smith are at present at Saft, the ancient Goshen, where a cemetery of the eighteenth dynasty has now been discovered. Mrs. Flinders Petrie and Mr. T. Butler-Stoney have prepared drawings of all the objects found in those sites.

MINUTES. X.

At the Tenth General Meeting (Ordinary) of the Session 1905-06, held Monday, 19th March 1906, at 8 p.m.—Present, Mr. Edwin T. Hall, *Vice-President*, in the Chair, 28 Fellows (including 9 members of the Council), 25 Associates (including 2 members of the Council), 1 Hon. Associate, and several visitors: the Minutes of the Meetings held Monday, 5th March 1906 [*ante* pp. 255, 256], were taken as read and signed as correct.

The Chairman referred with regret to the continued indisposition of the President, which prevented his attendance at the Meeting.

The following members attending for the first time since their election were formally admitted by the Chairman—viz. Matthew Garbutt, *Fellow*; Sydney Bridges, Ernest Llewellyn Hampshire, Henry Alfred Moon, *Associates*.

The Hon. Secretary announced the decease of William Gibbs Bartleet, elected *Associate* 1858, *Fellow* 1869, and stated that on the occasion of the funeral a wreath had been sent on behalf of the Institute in sympathy with the relatives of the deceased.

In reply to Mr. Maurice B. Adams [*F.*] the Chairman stated that the Council had considered it undesirable to take part officially in the meeting at the Royal Academy in connection with the Further Strand Improvement Scheme, a communication from the Council setting forth the views of the Institute having been recently laid before the London County Council.

Papers on LEADWORK by Messrs. F. W. Troup [*F.*] and Lawrence Weaver, F.S.A., having been read, and illustrated by lantern slides, a discussion ensued, and a vote of thanks was passed to the authors by acclamation.

The proceedings then closed, and the Meeting separated at 9.50 p.m.

THE TEACHING OF MATHEMATICS TO BUILDING-TRADE STUDENTS.

By HAROLD BUSHBRIDGE [A.], A.R.C.S.

Read before the Association of Teachers in Technical Institutes, 17th February 1906.

SINCE it has fallen to my lot to live in close contact with workers in the building trades from my schooldays upwards, an opportunity has been afforded me of becoming acquainted with their habits of thought and methods of work. This has enabled me the better to realise their special requirements. It therefore occurred to me that a few words might be said which would bring before teachers of mathematics the special needs and special difficulties of building men, so that those who have to teach the subject might, by getting more fully into sympathy with their students, be more successful in their endeavours to impart useful instruction.

And here may the remark be permitted that the longer one lives, the more one is impressed with the conviction that the art of teaching is mainly the art of putting oneself in the pupil's place, so as to enter fully into his difficulties, his methods of thought, his daily requirements, his surroundings, his aspirations, and his aims. I fully admit that, as a rule, those engaged in the building industries are far behindhand in their knowledge of practical mathematics. I also consider that more attention should be given to that branch of the technical training of our artisans. I venture to think, however, that the fact is often lost sight of by those who advocate one uniform course of practical mathematics for all workmen, that there is a very important artistic side to the training of our building men which has no parallel in the case of engineers. For instance, an architect's assistant must not only be well up in construction, but must be able to produce an artistic design, which involves years of patient study of art subjects. Similarly a thoroughly competent master-mason or master-carpenter should know something of the artistic treatment of stone or wood, as the case may be; and a plasterer having no acquaintance with modelling can hardly claim to be a competent tradesman.

It appears, therefore, that to produce a good all-round workman in almost any branch of the building trade the training should not be wholly scientific, but should be one in which art takes a prominent place. This, I feel convinced, is one reason why building men do not give more time to mathematical subjects. Another reason may be found in the fact that mathematics have a much more restricted application in building than in engineering work. Whole classes of problems with which the engineer has to deal almost daily are practically unknown to builders. Thus problems in thermodynamics, in motion, mechanism, and in electrical subjects would be included in this category.

In selecting the title of this Paper it may be presumed, I take it, that the Secretary of this Association had in mind the class of student for whom our polytechnics and technical institutes have been provided. This, of course, at once excludes boys still at school; and there remain those, varying in age from, say, 15 to 40 and upwards, who are learning, or who have learnt, some trade or profession connected with our building industries.

This classification will also naturally exclude most of the future leading architects, surveyors, and large builders, the majority of whom receive a higher technical college or university training in addition to premium pupilage, and, in some cases, a year or two of foreign travel.

We have left, then, the subordinates on the staffs of the principals just referred to, together with the rank and file of workers included in the various skilled trades, whose members in varying numbers find their way into our evening classes. Of these many will need little more mathematics than will enable them to reckon up the amount of their week's wages, nor do they wish to acquire more. Others, in very rare and exceptional cases, will be able to make use of all the mathematics they can get. And here may I suggest that students such as the latter (probably of the constructional engineer type, or of the expert land surveyor order) can best obtain the instruction they need in the regular mathematical classes of our polytechnics and institutes.

In the present Paper, as a rough working basis, it will be assumed that only those trades which would be represented upon the permanent staff of a large builder may be legitimately regarded as building trades proper; and it is to the men in these trades more especially, I take it, that the special mathematical instruction of the present Paper is intended to apply.

Our list of trades will therefore include:—
1. Architects' and Surveyors' Assistants and Draughtsmen. 2. Clerks of Works, Building Inspectors, &c. 3. Foremen (Bookkeepers, Clerks, &c.). 4. Excavators. 5. Bricklayers. 6. Masons. 7. Carpenters and Joiners. 8. Slaters and Tilers. 9. Plumbers. 10. Glaziers. 11. Plasterers. 12. Painters and Decorators.

Work done by other trades, such as electric light and bell fitters, hydraulic, heating and ventilating engineers, being now largely let as separate contracts, and carried out by separate firms, employing their own specially trained staff of men, these students may be fairly left to be dealt with by the special classes organised for the

benefit of such. At all events, the mathematics required by, for instance, an electrician are of a totally different order from those required by most of the ordinary building tradesmen.

So much is this the case that the presence of any considerable number of these men in a class of ordinary building operatives would greatly increase the difficulties of a teacher in selecting concrete examples and illustrations of the work in hand in such a way as to interest and hold the attention of all sections of his class. In fact, it appears to me that the requirements of the special trades just alluded to would generally be far better met by special classes in practical mathematics for engineers rather than for builders.

Returning now to our list of trades for whom specialised mathematical training is desired, we may, I think, in considering the direction our efforts should take, at once dismiss from our minds the special requirements of excavators, slaters, glaziers, plasterers, and painters, since any scheme of mathematics suited to the requirements of the other more highly skilled trades would be equally suited to the needs of these men. We are now left with the draughtsmen &c., clerks of works &c., bricklayers, masons, carpenters, joiners, and plumbers. And with these it is not difficult to deal. Their requirements are practically identical. They may be summed up in the three words—arithmetic, algebra, and geometry—and the chiefest of these is geometry. It simply remains to trace the extent to which each of these branches should be followed, and the method of treatment which is likely to be most beneficial to those concerned. Perhaps a few words may be permitted under each of the three headings.

I. *Arithmetic.*

Of course the four rules should be mastered and a certain amount of proficiency attained in dealing with vulgar and decimal fractions. Besides familiarity with the ordinary operations involved in money sums, some little extra attention should be given to the weights and measures employed in dealing with building materials and with land. This is especially important to those who intend to take up quantities, and incidentally to all building men, who will probably, sooner or later, have to measure up building work for themselves. A few lessons upon the duodecimal system of squaring dimensions will also prove of great practical utility to all our students. This system is rarely taught in our schools, although in office work scarcely any other method is ever employed. It is with pleasure that one notes in recent years a marked improvement in those one meets in evening classes compared with the average evening student of twenty years ago. The younger men certainly seem to be better grounded in elementary arithmetic, and, speaking generally, are better prepared than they used to be to take the applied mathematics required in their several trades. Of course

one meets with a large proportion of students who cannot perform the simplest arithmetical operations without making mistakes; but this I attribute chiefly to long disuse, and a little regular application will soon overcome the difficulty. Many men, too, without trying to discover short cuts, employ clumsy and laborious methods to attain results which might be arrived at more easily in less than half the time. It is also noteworthy that at first very few of our men appreciate the importance of discarding figures which have no significance. They will give an answer to eight or nine decimal places where two decimal places would more than suffice for all practical purposes. When this is pointed out to them, however, they soon learn to drop the useless figures. Of course the teacher should explain the usual methods of contracted multiplication and division, which will bring home to the student the absurdity of retaining useless figures in his results. I think it very important also that the student should be shown useful methods of rough-checking his work, so that he may gain self-reliance and be prevented from putting down ridiculously wrong answers.

As far as building-trade students are concerned, I think that logarithmic methods of calculation are altogether superfluous and unnecessary. In 999 cases out of a thousand all the calculations that a man is ever likely to have to make can be performed more directly and more easily by the ordinary arithmetical methods. I am convinced that for the vast majority of students we get in our evening classes the time spent in teaching logarithms would be far better spent if devoted to the more thorough teaching of mensuration or some more practical branch of mathematics. Indeed, it is but very seldom that even an architect or surveyor requires to use logarithmic tables. Partly for this reason I think that the Board of Education syllabus in practical mathematics is quite unsuited to the needs of our building men. It may be admirably adapted to the requirements of engineers and electricians; but as far as building men are concerned the Board of Education syllabus is practically a dead letter.

Although not in favour of teaching logarithmic methods of calculation, I am a great advocate of the slide rule. In a short lesson of about one hour's duration sufficient of the theory of logarithms could be explained to enable a student to understand and make intelligent use of a slide rule. No effort should be spared to induce every student to get one for himself, and to practise the use of it until he comes to like it. And when once he becomes familiar with it he will not willingly be without it when calculations are in hand. Probably the people who are likely to derive the greatest benefit from the use of a slide rule are draughtsmen in designing ironwork. Surveyors' assistants also, in taking rough quantities or in checking accurately squared dimensions, would effect a great saving of time and labour by

a judicious use of the slide rule. Foremen and others who have to estimate weights and quantities of materials or to check invoices might also find a slide rule a very profitable investment.

II. *Algebra.*

Algebra is of less importance to us than arithmetic or geometry. The elements of algebra, however, should be mastered by all our building students, although the examples given should be of the simplest kind. The beginner should not be frightened by a dread array of symbols leading to long and tedious operations. The object of the teacher should be to pass rapidly over the preliminary rules of addition, subtraction, multiplication, and division, and to arrive as quickly as may be at the solution of simple equations. I would not too eagerly push forward to quadratics and simultaneous equations, seeing that in building practice they are not of frequent occurrence, but would rather make sure that the pupil is perfectly competent to deal satisfactorily with any simple equation involving fractional quantities. He should be taught to regard an equation simply as a kind of shorthand statement of all the conditions involved in any given problem. From his very first introduction to the subject, he should be shown that in actual calculations the symbols stand for definite concrete quantities, and ample illustrations can be drawn from mensuration and from formulae used in practice for the strength of beams, struts, &c.

And here I would remark that most beginners find considerable assistance in their efforts to grasp the new ideas associated with the use of letters to represent numbers if some rough system of alliteration be adopted. Thus in giving a formula for the area of a rectangle, taking *A* for area, *b* for breadth, and *l* for length, we may say $A = b \times l$; or in an approximate formula for the strength of a fir beam of breadth *b*, depth *d*, and span *S* (feet), *W* being the safe uniformly distributed load in cwts., we may say $W = \frac{b \times d^2}{S}$. Also, for outside

and inside dimensions, capitals and italics may be employed; thus of a hollow rectangle the external dimensions may be *B* and *L*, its inside dimensions being *b* and *l*.

Many other illustrations will suggest themselves, and I have always found that the confidence and interest of a class are best gained by selecting one's examples from work with which the majority of the men are familiar, or from things of common knowledge in everyday life, the preference being always given to a definite example which has actually occurred, or which may occur in practice, instead of one which is practically improbable or impossible. Again, a man may be helped to grasp the abstractions of algebra sometimes by interpreting a formula as a verbal rule.

In dealing with men in the higher stages of technical subjects, I have often noticed the difficulty

which some students experience in solving an equation, although they may perfectly grasp its significance. Simple transpositions and inversions seem to mystify them considerably, and one sometimes has to explain by means of several little steps what should be easily done mentally in one line. For this reason I think that considerable practice should be given in the solution of simple equations, and the student should be trained to express straightforward problems in algebraical language without being unduly puzzled by catch questions of doubtful utility.

Mensuration may be regarded as a branch of applied arithmetic, and although aware that this science is based upon a knowledge of geometry, I prefer to deal with it here, since the practice of mensuration is more closely associated with arithmetic and algebra than with the practical geometry which is of such great importance to builders. I suppose there is hardly another class of craftsmen in the country to whom mensuration is of more importance than to builders. In estimating the cost of proposed work, and in valuing it when completed; in ordering quantities of materials from merchants, and in estimating the time required to perform the work; in ascertaining the loads upon girders and columns, and the weights of the materials themselves—the builder must continually have recourse to the rules of mensuration. The paramount importance of this branch of the subject is therefore self-evident, and no young workman in any branch of the trade can consider himself competent until he can perform the necessary calculations required in ascertaining accurately the quantities of materials required for his work. The simplest rules of mensuration being almost self-evident, no proof need be given. For those which are not so obvious, I think some form of practical demonstration is better adapted to the mental capacities of our students, and is far better appreciated than a rigid mathematical proof. Instead of stating the rules of mensuration in words, as, for example, one finds in the older text-books, such as Todhunter's, I prefer to adopt Professor Perry's system, and give them as simple algebraical formulae. After an elementary introduction to algebra, I find our men readily work from such formulae. This system avoids burdening the memory with cumbersome rules, difficult to remember, whilst the student learns that such formulae may be modified in accordance with the ordinary rules of algebra, and so adapted to the particular work in hand. For example, the old rule for finding the area of a triangle when three sides are given, although simple when expressed algebraically, as $A = \sqrt{s(s-a)(s-b)(s-c)}$, assumes rather a forbidding aspect when stated verbally, and is not easily remembered. Of course the teacher will see that examples are worked by the decimal method as well as by the use of vulgar fractions, whilst of still greater importance is the duodecimal method so universally employed by

quantity surveyors. I certainly think that until the metric system is more generally adopted in practice we need not take up the very limited time available in evening classes for the purpose of teaching the principles and practice of that admirable system.

III. *Geometry.*

We come now to that branch of mathematics which to our men may fairly be regarded as the most important one, not only because it lays the foundation upon which the whole science of mensuration is built, but also because it provides the necessary basis for the construction and use of all working and detail drawings, as well as for the setting out of the work itself. Although, however, we are so dependent upon the work of pure geometry, I think it is neither necessary nor wise to attempt to teach our trade lads rigid geometrical proofs, such as Euclid would insist upon, for every problem we give them. The great majority of them have neither the time nor the ability to go through a logically arranged course of pure geometry; and even if they were to take such a course, I doubt whether one-tenth of them would be able to adequately apply their knowledge to their daily work. To my mind it is of far greater importance to give them a thoroughly good and fairly complete course of practical geometry, dealing with plane geometry first, and then following with the projection of solids, and finally giving them a good grounding in the practical geometry of points, lines, and planes.

It should here be observed that the geometry required is not merely that minimum which is necessary to enable a man to understand or construct a working drawing, but must go far enough to enable him to set out his own work upon the material, and must prepare him for attacking the more difficult problems of his trade, such as circle upon circle, and oblique work generally. To masons, bricklayers, carpenters and joiners, and, to some extent, to plumbers as well, it is of the first importance that they should have a good knowledge of practical plane and solid geometry if they are ever to become competent workmen, able to deal satisfactorily with the higher branches of their trade.

We have but to think of the setting out of staircases and handrails in joinery, of complicated hipped roofs in carpentry, of vaults, domes, and skew bridges in masonry, together with all the bevels and templates incidental thereto, in order to see the supreme importance of practical geometry to the builder. The course of geometry which will best meet the requirements of our men is therefore, I think, one in which the drawing board and T square are freely and continuously employed in class.

Beginning with simple exercises in the bisection of lines and angles, with applications thereof, we should proceed to various useful problems on the

straight line and circle, and the construction of triangles and polygons, simple problems on areas, on proportion and similar figures, and the construction of various useful curves, such as ellipses, parabolas, and spirals. Every lesson must suggest some direct practical application to actual work, if we are to retain the interest of our students. Two methods should sometimes be given for the solution of the same problem—one for use on the drawing board, and another to be used in setting out work full size in the workshop. Following the plane geometry will come several lessons upon simple solids drawn in plan and elevation, together with various sections of them by vertical, horizontal, and inclined planes. Solids, such as bricks, suggestive of actual work, always seem to have a greater fascination for our men than the more academical tetrahedrons, cubes, octahedrons, &c. Developments of solids should be fully dealt with, since, for instance, the templates required in setting out masonry are derived directly from developments of the intended finished forms.

In order to be fully prepared for dealing with the higher branches of constructive work, including bevelled, splayed, and oblique work, circle upon circle, and generally work of double curvature, the student should have a good course dealing with points, lines, and planes in space, showing methods for determining their intersections, the true lengths of lines, real angles between planes, &c. He will then be able to apply his knowledge to the particular work in hand, and often to devise his own methods.

I regret to find that the Board of Education Syllabus in practical plane and solid geometry at the present day is far less fitted to meet the requirements of builders than it was ten or twenty years ago. In place of the really useful problems on points, lines, planes, and solids, one finds a miscellaneous assortment of work, including graphic arithmetic, vectors, the tracing of loof, graphic representation of trigonometrical functions, and much besides, which may be very useful to engineers, and would afford an excellent course of mental training to architects, if they had the time and inclination to undertake it; but as far as actual building work is concerned, one half of it is simply useless to our men, for not one in a thousand of them would ever require to make use of it in his daily work. The text-book on geometry which I think most nearly meets the requirements of builders is the excellent *Advanced Practical Plane and Solid Geometry* written by the late Mr. Henry Angel. The ground is fairly well covered, and if a few more examples could be added showing the application of practical geometry to problems met with in building work it would be a greater favourite among workmen than it is at present. Like Prof. Perry, I would not draw a hard-and-fast line between geometry and arithmetic. Practical problems should be solved by the readiest and best methods that suggest themselves, whether

geometrical or arithmetical; whilst a mixed method may often be used with advantage.

Regarding geometrical proofs, as I have already hinted, I often prefer an optical demonstration to a strict mathematical proof for the class of men we have to deal with. Thus in problems upon areas, such as finding a rectangle equal to a given triangle, or making a rectangle equal to a given parallelogram, the teacher may cut the given figures out of paper, and by dissecting them properly may build up the required figures out of the pieces so obtained. Again, to verify Euclid, i. 47, right-angled triangles may be taken having sides in the ratio 3:4:5 or 8:15:17, and the area of each square shown by cutting it up into square units. When dealing with this problem it should be pointed out that the truth holds good for all similar figures, and an illustration may be given for circles in determining the diameter of a pipe which shall have the same sectional area as two or more given pipes.

Perhaps a few words should be said upon the use of squared paper and the construction of graphs. It appears to me that for builders this kind of work has a far more limited field of usefulness, and is of much less importance than for engineers. I certainly think that the more advanced students should be taught to understand and make intelligent use of diagrams on squared paper when necessary, but beginners in their first year need spend no time upon them. In the advanced stages of technical subjects I find that diagrams to illustrate physical laws, and expressing the results of experiments as curves, are readily understood by our students. In this way they have been of great assistance to me in bringing home to a class in an interesting way many important facts connected with the testing and properties of building materials. I think, however, that the only section of our students who would find it worth their while to pursue the subject beyond this point are those who are likely to become leading draughtsmen, managers, or principals of firms.

Now with reference to vectors and graphic statics. Since, with the exception of problems connected with the transport and hoisting of materials, and perhaps the occasional driving of a few piles, builders are concerned with the statical branch only of mechanics, I think the time which would be spent in adequately teaching our men how to deal effectively with problems on velocities and accelerations, circular motion, &c. would be better spent if devoted to other subjects, which to them would be of greater interest and of more practical importance. I would therefore deal only with the triangle and parallelogram of forces, as concrete and specific examples of the more general theory of vectors, perhaps occasionally showing an intelligent class that the same treatment could be applied to problems on motion and position.

The only branch of the subject which is likely

to be of practical utility to our men, and which, I think, should be dealt with thoroughly and in a fairly exhaustive manner in the higher stages, is that which deals with statical problems in framework and masonry. Closely associated with this work is the determination of bending moment and shearing force diagrams for beams; of centres of gravity and moments of inertia for plane figures; of resistance lines in arches and retaining walls, and of resistance areas in beams—all of which are useful in the higher stages of building construction. Even here, however, we must bear in mind that but very few of the craftsmen in our trade classes are ever likely to have to design structural work of any magnitude for themselves. This subject is pre-eminently one for the civil engineer, the architect, and the surveyor with their assistants.

In teaching this branch of the subject I have found that practical men have no difficulty in grasping the meaning of force scales and in using them. Bending moment scales are a general stumbling block to all, on account, I presume, of the abstract conception of a mechanical moment being more difficult to realise than that of a simple force. Even where Bow's admirable system of notation is employed, beginners generally experience great difficulty in drawing stress diagrams for framed structures. The idea often prevails that the diagrams can be learnt by heart in the same way that boys at school sometimes learn Euclid's figures.

Doubtless many of those present will be disappointed at the limited view I am now taking of the part which mathematics should play in the training of our artisans. Let it be clearly understood that I am not dealing with the case of boys in technical day schools, for whom, no doubt, a more liberal syllabus in many respects would prove advantageous. I have endeavoured to confine my remarks to the work required in evening classes. Just as soldiers are admonished to aim low if they would shoot effectively, so I am more convinced every year that the true secret of effective teaching to artisans is to curb ambition in our constant endeavour to ensure that fundamental principles are well understood.

Let us remember that, after all, our ultimate object should be not merely to prepare students for passing examinations based on ambitious syllabuses, nor to turn out trained mathematicians, but to fit them for grappling successfully with the hard practical problems of everyday life; to make them not merely clever calculators, but good all-round craftsmen, able to turn out a piece of work with credit to themselves and their employers; to turn out men not just barely able to hold their own in the world, but well qualified to advance their own interests as well as the interests of their trade, and so prove, not only successful competitors in the struggle for existence, but masters of their craft in the full sense of the word—men many of whom may rise to responsible and useful positions in life, and so prove a blessing to the whole community.



DUTCH SCHERM, NORTH KENSINGTON. DATE 1700.

WOOD-CARVING.

By W. AUMONIER and A. W. MARTYN.

Read before the Royal Institute of British Architects, Monday, 2nd April 1906.

I. By W. AUMONIER.

WOOD-CARVING is one of the earliest arts; over three thousand years ago in Thebes, wood statues were made for the tombs of the kings, and three of these statues are in the British Museum to-day; again, when, on the vast prairies of the Far West, the North American Indians whittled their tomahawks, they were practising wood-carving—beginning an art that was to have a wide significance and a world-wide range—an art which some men in all ages, because they worked earnestly and with all their might, have made famous; an art which some of our amateurs of to-day, with their superior knowledge, have so much energy to talk about and so little power to do. It has passed through the intervening centuries with more or less success, and still survives. Its successes have given pleasure to the world in all time; its failures may well be forgotten. I think this is far enough to go back for our subject to-night; I am more concerned to speak of its life and possibilities in the present and the future, than to make a catalogue of its accomplishments in the past—more keen to speak on the life of to-day than to unearth the dead for criticism.

Now I have thought, at times, when asked to speak of wood-carving, that it is all so simple that there is nothing to say about it. You have merely to take a block of wood and carve into it till you obtain the form you may be seeking. That, in fact, one can tell another in half an hour all there is to know about the actual doing of wood-carving. But, of course, it takes years of practice to be able to do this with success. So that at other times I have thought that there is so much to say about it from different points of view that it becomes

difficult to know where to begin or what to say. One feels that in an assemblage like this everyone knows all about it. Then there is the fact that I have spoken to you before on the same subject. However, I will endeavour to treat it in a somewhat different manner this time from that which I did before. As I spoke mainly the last time on the technical part of the subject and touched on the historical, I propose to-night to speak principally on the treatment which, in my opinion, is proper to wood-carving, or the various treatments that may be applied to it.

In architectural decorations it is obvious there are many and various ways of applying carving. There are mouldings—forming frames to panels or doors, or used as bands of enrichment running horizontally round the rooms, as in cornices, or below friezes. Then there are the panels themselves, into which may be put all the variety and richness the carver can conceive, and where he may blossom out in all the glory of his craft, and produce the framed pictures he loves so well. If he can succeed in making these points of real interest in the scheme, and by a right understanding of the power of light and shade help the architect to bring his whole design into harmony, so much the better; and if he impart to them and his other work some subtle touches that will help to bring mystery and life into it, in however small a degree, he has done something to relieve the appalling monotony of machine-worked moulding and correctly planed boards—he has done something to justify his hope that he may be regarded as a brother artist working in sympathy with the first and most important one, the architect, towards a common end—not as a mere mechanical aid, to be told to “do this” or “do the other,” without sympathy or brotherhood.

AS TO THE ACTUAL TREATMENT OF PANEL WORK.

More or less flat panels which are intended to express a flat or vertical surface may be treated by keeping the ground of the panel quite flat, and the surface of the carving on it may be varied as much as you like without losing the feeling of verticality of the panel itself, especially if the ornament is rather sparsely spread over the surface. Or the ground may be shaped to a section, and the surface of the carving kept quite flat,



CARVING BY GRISLINO STROUD, ST. PAUL'S CATHEDRAL.



ALBERT J. P.

thus retaining a similar effect of flatness or verticality in another way. Great variety and charm may be obtained by shaping or undulating the ground in various ways, and keeping the surface of carving flat.

Now I think one of the beauties of panel work is that it shall always look as if it were part and parcel of the ground and could not have been stuck on to it, and this does not



JEAN GOUGON DOOR, SAINT-MAXIME, ROUEN.

necessarily imply that the work should not be fearlessly undercut in places; indeed, it may be cut right away from behind in parts, so that the work stands quite clear from the ground, so much so that you may put your finger between it and the ground, and yet it will not look stuck on if other parts are brought right down and delicately die into the background. This effect of combining and harmonising ground and carving, as a whole, may be just as easily

obtained on a shaped ground, where the surface of the carving is kept quite flat, as in the more ordinary treatment of keeping the ground flat and getting the effect by the undulating carving—as, for instance, by keeping the carving very thin indeed on the protruding parts of the shaped ground you will obtain the same feeling of combination and solidity.



JEAN GOUJON DOOR, SAINT-MAULO, ROUEN.

I think very fine effects can be obtained in carved panels by the actual treatment of the work as light and shade (almost irrespective of the beauty of the design), by putting some parts very low on to the ground and keeping others high. Of course, if you have a good design to begin with, so much the better; what I want to express is that even a bad design may be made to look tolerable by the way the work is, what we call, "thrown about," and that



VERONA.

Photo. by E. Ferrari.

a really fine design may have no interest if carved with no sense of relief or proper variety of surface. A design should never be too elaborate or intricate in character—better err on the other side and be too simple, as even the simplest design may be made to look well in carving.

Endless variety may be obtained in the carving of panel work by the way it is treated. For instance, it may be kept in more or less flat planes, on different levels, or each plane may be varied in height in itself, or the whole surface of the work may be kept quite flat where the ground is shaped to a fixed section. Friezes may be treated in a similar manner to panels, only care should be taken to keep up the effect of a continuous line of enrichment over the whole surface, or part of it, preferably at the top.

While on the subject of panel work, although personally my sympathies are strongly in favour of solid panels carved with a considerable amount of relief, some parts being high and other parts very low and dying delicately into the ground and combining with it, I feel that in these days of a distinct, and to some architects disquieting, revival of the Grinling Gibbons sort of work, one cannot quite ignore the sumptuous effects arrived at by swags, &c., boldly applied on to the surface of plain panels (such, for instance, as in St. Paul's, Hampton Court, Petworth, and numerous other well-known works). By this process rich and strongly decorative effects may be obtained which, perhaps, could not conveniently be accomplished by any other means. I know there exists a difference of opinion among architects as to whether this is a legitimate way of using carving or not; I know also that some very fine carving has been, and can be, done in this way. So I must leave you to fight it out yourselves: it will be something for you to talk about.

STYLES: FORMING FRAMES TO CARVED PANELS.

I think if styles or rails forming part of the frames of carved panels be carved at all, they should be treated very delicately, and carved into the solid wood itself, so as not to lose the feeling of strength properly belonging to framing of any sort. Here, at least, boldly carved work, applied or stuck on, must have a tendency not only to deteriorate the feeling of true construction, but must seriously interfere with the concentrated richness one has a right to look for in a panel. Columns, if carved, should be treated in the same flat, solid manner as I recommend for styles.

PERFORATED WORK.

Perforated work should be kept very flat on the surface, as where the effect is intended to be obtained by the shadows of the perforations there is no object in varying the surface much, and such treatment will only tend to deteriorate from the effect which should be obtained more by drawing than variety of surface.

I have a beautiful example of perforated wood-carving here (*see headpiece*). I think it is almost perfect in its way; the absolutely wood-carver's cut on the surface, the fine disposition of the spaces, harmonising so well with the solid parts, and the crisp cutting of the outlines so characteristic of the gouge, combine to make it a perfectly successful work of wood treatment. It could hardly have been executed in any other material, which makes—to me, at least—its charm; its sense of growth and joy in the composition appeals strongly to anyone who loves wood-carving for its own sake and its own character. In mediæval work one finds many finely designed and broadly treated examples of perforated carving. But I think that generally, about the Wren period, pierced work is apt to be too much cut up and worried on the surface, though much of it is boldly designed.

AS TO MOULDINGS.

I want to say something about mouldings, because I think they are rather neglected at times; at any rate, I have seen schemes of architectural decoration which might have been improved by giving more thought to the suitable treatment of the carved mouldings, as, for instance, keeping some of them very delicate in effect, and some much stronger as a whole; while some may be delicate in parts and much stronger in others, always dividing the strength and delicacy to run in line with the edge of the moulding.

There are many ways of treating enriched mouldings. You may carve them as one continuous enrichment, keeping the surface, or contour, of the moulding almost undisturbed by carving but faintly into it (as example A); or you may help the architect to express the form he wants to obtain, having due regard to the light and shade he is trying for by deepening the hollow part on, say, an ogee, and leaving the round part very faintly carved (as examples B), which helps to give a stronger effect to the original form desired. Or you may cut away the background of the moulding to quite a different section from the front (as examples C), leaving the original surface or contour of moulding to appear undisturbed at intervals, giving great variety and richness to the scheme of enriched bands or courses. I think the well-known egg-and-tongue is a beautiful example of the two methods I am speaking about combined, as, having no precise section at the back of the carving, however deeply it is cut into, if it is not too widely divided it never seems to destroy the original surface. There are many other ways of treating mouldings which can be thought of, which have a certain refinement, but can be given great force at the same time by judicious treatment.

CAPS.

Caps to columns or pilasters should never be overcrowded, but should show the bell plainly, thus revealing the strength of the column going right up to the abacus. They should be very lightly carved, and the volutes may be freely cut through in all directions, plainly disclosing the bell underneath them. They may be as finely conceived and as delicately carved as you like, so long as they display plenty of bell, plenty of strength to support the weight above which they have to carry. I have myself a great respect for columns, and think a well-proportioned column is a distinctly graceful feature in architecture; and I think a cap should be like a beautiful woman's head—the crowning glory of a perfect form.

AS TO CARVING GENERALLY.

All carving should be carefully studied in reference to the position it is going to occupy, its height from the floor and the amount and direction of the light it will have in its place. The point of view must be considered, especially, as to whether it is looked up at, or down on to. Work is often too highly finished in the good light of a workshop, and such finish is of no value in its position in the room or building, and indeed often detracts from the effect which might have been produced had the work been left rougher; thus it is obvious that some parts of the work may well be left with a less degree of finish than others and gain in effect thereby.

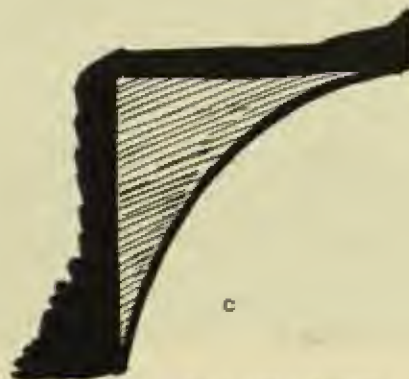
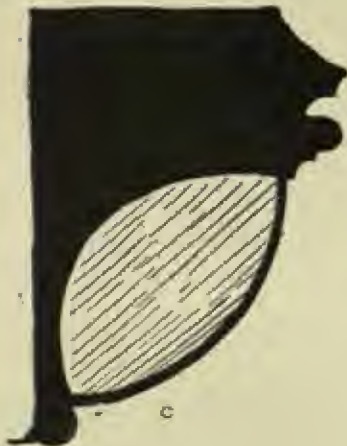
Avoid all mechanical means of getting effect, such as scratching mouldings where they come among carving. They will only be out of harmony with the rest of the work, and the more precise and highly finished they are, the worse they will look. By scratching, I mean



A. Original section kept all over.



B. Section deepened in parts.



C. Section at back of carving quite different from that on front of moulding.

SECTIONS FOR CARVED MOULDINGS.

B B



OLD OAK CARVING, ST. CROSS, WINCHESTER.
(From Salmon's Series.)

working the moulding with a steel template, cut to the reverse, such as was used largely when some of us were younger than we are now.

All carving should be treated with the proper characteristics of the art—that is, genuine wood-carving cuts, the work of the gouge and the chisel, not the file or riffler—not to imitate clay or marble, but be itself alone, such that it could not have been done in any other material. I want to plead for its own treatment, that of real carved or cut wood, cut with sharp tools, and alive with living, nervous cuts all over both subject and ground, making one harmonious whole: no part of the ground ever absolutely smooth like a planed board—no part of the surface of the carving itself ever robbed of all expression by the brutal use of glass-paper or fishskin: all parts of the work teeming with the joy of life and effort which the carver felt in doing it. Let it at least look as if wrought by a man with the hot blood tearing through his veins, not reflect the stagnation born of a joyless soul.

I want wood-carving to speak with a voice, not to make itself felt by a groan. The voice of a living art revering the traditions of the past—panting to learn from the teachings of the present, and tuning itself in harmony with the great glad chorus of the sister arts.

II. By A. W. MARTYN.

I DO not propose to deal with the subject of wood-carving "historically," only in a minor degree, the object of this Paper being to try to place before you the relative position of the carver and architect, and find some means of improving the standard of work executed.

It is an easy matter for the carver to say, "if he had more money for his work he could give better results"; but we must go further than this to find the reason for the slow progress made in the art of wood-carving.

Although I begin these remarks with the statement that I do not propose to deal with the subject historically to any great extent, I cannot help thinking that a brief survey of the past may help us to devise some mode of action for the future.

Wood-carving is one of the oldest arts, probably preceding sculpture in marble or the working in metal, by reason that the material was more ready to hand, and being also softer was more easily fashioned into the desired form. As an example of the skill of the early carvers the well-known bas-relief in the Louvre may be quoted, which is attributed to about the Seventh Dynasty, or over 2,000 years B.C.; but perhaps the finest early example of Egyptian work is the celebrated wood statue at Boulac Museum of a life-size man, attributed to the Fourth Dynasty—say some 4,000 years B.C. Other examples might be quoted, but one need not go further to show the skill acquired in wood-carving at this period.

What, then, have we been doing in carving these last 6,000 years? The last-mentioned statue is a fine work, full of dignity and vigour. To-day we often find wood-carving lacking both these qualities, and in strong contrast to the productions of the early Egyptians, Greeks, and Romans. In the period which was dominated by the Greeks, say 500 B.C., some of the finest carvings were executed; and it was at this period that Phidias produced his sculpture which was to live during succeeding centuries as the work of the greatest sculptor ever known. A colossal statue of Athene executed by him in wood, with face, hands, and feet of ivory, is to-day unrivalled by any succeeding artist.

Coming down to mediæval work, the most remarkable examples of the art, strangely enough, belong to Scandinavia and Denmark, the periods between the ninth and thirteenth centuries producing some fine characteristic work, of which reproductions may be seen in

plaster at South Kensington Museum. The type of work is low relief, the whole face of the material being richly carved with scroll-work of an intricate design, with figures and animals introduced in all the full vigour of the early Egyptian work. In a minor degree our better Norman carving seems to follow upon these lines, and in all probability was introduced by the Danes as early as the ninth or tenth century, which seems to have been the date of the introduction of architectural wood-carving into this country. From this date to the fourteenth century we have little of merit, the early English wood-carving being of a heavy and coarse character, and not to be compared with the stone-carving of this period. As we come down to the fourteenth and fifteenth centuries the work shows marked improvement, the latter being richly wrought with tracery carving, in which is intermingled conventional foliage and fruit, often used as emblems, as seen in the delightful screens and stalls so well known to all of us. It was during this period that English wood-carving was recognised in Europe; and there is little doubt that England, together with Germany, led the van in this art. It was also at this time that the stucco and painted wood-carving was introduced, and the many fine examples in this country, even to-day, give us a good idea of the wealth of imagination and the power of invention, used by the artists employed upon these works. There is no period in the history of wood-carving that has left a greater mark upon the present generation. It is worth noting that during the greater part of the fifteenth and early sixteenth centuries there was a canonical law requiring every church to have its rood-screen. This, no doubt, had a marked effect in raising the demand for good work.

As we merge into the sixteenth century we begin to lose much of the vigour of the fifteenth, the work also lacking imagination; and although during the sixteenth and seventeenth centuries a very large amount of carving was done, it does not bear comparison with the work executed on the Continent; at the same time it shows some determination to get away from the lines laid down by the earlier masters. That there was a desire for richness of effect cannot be denied, as is shown by such examples as the inner porch of the drawing-room at Red Lodge; the screen, King's College Chapel, Cambridge (which bears evidence of French influence), and many others; but, as before stated, the carving itself generally is not of a high order, and is principally interesting in that it is the first serious attempt in this country of classic work. In all probability we are more directly indebted to Spain than Italy for this introduction, the well-known chimney-piece at Wolfeton House being typical of this Spanish feeling; and upon this style our Jacobean wood-carving seems largely to have been formed. I am aware that a great many people admire the Elizabethan and Jacobean wood-carving; but, generally speaking, it was executed in a commercial spirit, lacking refinement and, to some extent, imagination. It was, indeed, a great contrast to the work of the Italian masters, from whom it had been originally adapted. Who can contemplate this period of Italian art without a feeling of intense pleasure? While we in this country were entering into the delights of the golden age of literature, Italy was revelling in a golden age of art surpassing anything known to history. Prominent amongst these artists was Raphael (the founder of a school of carving which formed the basis of the sixteenth-century Renaissance), one of the hardest workers whom the world has known, and who, although dying at the age of thirty-seven, left a name pre-eminent in art, a glorious figure in a glorious time; with him were such men as Michelangelo, Perugino (Raphael's early master), Signorelli, Lorenzo Lotto, Fra Bartolomeo, Leonardo da Vinci, and many others, including Ghiberti and Donatello. Is it surprising at a time when wealth, luxury, and art were unsurpassed that carving should share in the general development? As before mentioned, it was at the height of this galaxy of talent that the Italian Renaissance had its creation, Raphael himself leading as architect, carver, and painter. In 1514 he was appointed chief architect to St. Peter's at

Rome, and it is probable that he, in his position as architect, gave of his valuable time to the minor art of wood-carving.

It is impossible to over-estimate the influence such an artist had upon his fellow-workers. Perhaps the most typical of his designs in wood-carving which were carried out by his pupil "Giovanni Barile" are the doors and shutters of the "Stanze," which are of the pure classic type founded upon the Roman wall paintings. These works are highly finished, full of character, and no doubt are among the finest examples of Italian wood-carving. Not only did Raphael show his interest in this art, but such men as Ghiberti, Donatello, Cellini, and many other leading artists and architects assisted. It can be readily understood that such influence must have been felt throughout the whole of Europe, France especially sharing in the progress of art generally; and it is only surprising that England profited so little in artistic matters from her sister States. Probably this must be ascribed to her troubles abroad and at home during the Reformation, Germany also being somewhat affected by the same cause. It seems a pity that the latter country should not have taken full advantage of this revival of classic work, as during the preceding century she was no doubt one of the leaders in the art of wood-carving, the examples of her fifteenth-century work being equal to anything that was produced during that period. A fine example of this work is shown in South Kensington Museum—viz. a centre panel of a triptych by "Veit Stoss." That Germany had her own expression in the Renaissance is of course evident, but it fell very far below the Italian. Probably Albrecht Durer has a marked effect upon the work of the early part of the sixteenth century, and there is little doubt he was one of the leading artists of his day. His work is well known both as a painter and sculptor, and he doubtless helped to continue the Gothic feeling in Germany against the rising classic students.

The following period in this country is of great interest at the present time, as it was in the latter part of the seventeenth century that Grinling Gibbons (1648-1721) produced some of the best of his works which to-day are appreciated perhaps more than any other type of English wood-carving of the later periods. That there is a variety of opinion as to the artistic value of his work we cannot question; but I think it must be admitted that he raised the standard of wood-carving very materially from the position it held in 1670.

After his death in 1721 wood-carving again declined, and we get little variety or character in the later work, perhaps with the exception of Adam, who certainly introduced a new spirit into carving; and although it is not marked by any great inspiration or genius, the refinement of his work is to-day generally appreciated, more especially his plaster-work, which is exemplified in Rendlestone Hall.

In 1850 William Morris inaugurated a new school of art known as the "New Arts and Crafts." This style of "new art" to-day has little to commend it, its general features being the more realistic adaptation from nature. Some of the most typical of this work was on view in the Paris Exhibition of 1900, and is still to be seen in the annual salons at Paris as well as the Exhibitions at home. The work, however, generally is best forgotten by the carver who is desirous of real architectural form.

I have endeavoured, as far as time will permit, to sketch a rough outline of historical wood-carving, not only in this country, but in Europe generally, although one feels how little justice has been done to such periods as, among others, Francis I. This King, a leading influence in France, gathered round him men from all nations who vied with each other for his patronage; and it was under this monarch that Cellini produced some of his best works. There is also the Spanish Renaissance, which is full of interest; but I think I have suggested what will serve my purpose.

Can we make any deductions from this historic sketch to help us? Possibly we may.



Egyptian, Greek, Mediæval, and the Renaissance carving were inspired by religious enthusiasm, the earliest works all applying to tombs, temples, and churches; so we come down to the fifteenth century, which is wonderfully rich, and is especially typified in church work. During the sixteenth and early seventeenth centuries this enthusiasm was entirely wanting in this country; but such was not the case in Italy and France, where we have seen that art was triumphant. If followed closely we find that the major part of this work was executed for churches, or by artists who had been trained in these religious schools, the work showing a fervour not to be found in contemporary work of England and Germany.

Gibbons's opportunity and inspiration was doubtless St. Paul's Cathedral; and if we analyse the work of Italian, German, and Spanish wood-carving we find through history that the Church has been the inspiration of the great masters. When I say the Church I mean religious enthusiasm. Perhaps no greater evidence is possible of the effect of this enthusiasm than the work produced by the Asiatics, whose work was full of soul, although, maybe, of a baser kind. Professor Middleton, speaking of this carving, says:—"In many cases the freshness of invention and freedom of hand shown in the carved ornament of savage races give a more really artistic value to their work than is usually found in the modern, laboured, and mechanical carving of highly civilised people." He concludes:—"The commercial spirit of the age and the general desire to produce the utmost display with the smallest cost and labour have reduced the art of wood-carving to a very low state." Here, then, we have a second reason; but, first, how are we to inspire this enthusiasm, and will the expression of such enthusiasm elevate the public taste so that we shall not have such a character for the next fifty years as we have had in the past? These are difficult questions. To inspire enthusiasm one must have "contagious enthusiasm" oneself; had we a wood-carver—or shall I say an architect?—with this enthusiasm for his work that a man like "General" Booth has, we should find a marked improvement in all branches of architectural art.

This leads me to a point which I wish to bring specially to your notice—viz. that *it is the architect who makes the carver.*

What do I mean by the architect making the carver? In the first instance, the architect *must know* what he wants; I do not mean in detail, but in weight, proportion, and type of work. There are cases where the architect does not even know the latter, but fortunately this is rare. He must not only know, but he must be able to inspire his carver with his requirements; he must work with him as a fellow-artist, leading him on to produce that which is in the mind of the architect.

Referring again to Gibbons; here is an example of an artist in wood who, when left to himself, simply becomes a clever expert with his tools: his work lacks architectural harmony, and is wood-carving pure and simple, without direction. As evidence, take the altar-piece at St. James's Church, Piccadilly; as an example of technical skill it is probably unrivalled, but somehow it always appears to me to have been carried out without an architect—there is no control, it is simply a mass of fruit and flowers wonderfully strung together. If, on the other hand, you look at his work in St. Paul's Cathedral, you will find a considerable quantity of it is not nearly so well carved or so dexterous, but it has control; it has architectural harmony and is part of the architecture, and, what is more, part of the architect. Even in St. Paul's one finds most uneven value in the work. Have you noticed the two large stone carved panels on the west front? The one on the north does not bear comparison with the one on the south. Here, again, in one instance the carver has lacked the influence of the architect. I can quite believe that some of you wish you could find a Grinling Gibbons to do your carving; but good carving, harmonious carving, can only be secured by the continued vigilance of the directing mind.

It is evident from these remarks that I am of opinion the architect must have a considerable knowledge of wood-carving. Yes and no; technically (that is, in the handling of tools) little knowledge is required; but intimacy with good work is essential; further, I believe that for a carver to get the best results he must have a fair knowledge of architecture—*i.e.* the carver should know as much of architecture as the architect should of carving. It must, however, be intuitive to a large extent, and a sympathy existing between the artists which makes them work in harmony. Contagious enthusiasm is a rare gift, and therefore cannot be within the power of us all; but intimacy with one's subject and sympathy between the artists can be secured by every architect, and will to some extent remedy the deficiency in the lack of this enthusiasm.

Now, to go to the second point, and again to quote Professor Middleton:—"The commercial spirit of the age and the general desire to produce the utmost display." What vulgarity! Is this an age of vulgarity? Shall we cultivate it or shall we condemn it? There can be only one opinion.

One of the greatest charms in architecture is doubtless simplicity; and if we can do away with this vulgarity, and produce but a small quantity of wood-carving in place of the often over-elaboration, we may be able to get better results because we are allowed more time and thought for production. Gibbons, although producing a costly type of work, was a master in the art of simplification when desirable, some of his mouldings being most effectively and cleverly treated at a very nominal cost, thus enabling him to secure the better results on his more elaborate work, where he would not allow cost to interfere with his productions; this, of course, is where the value of technical knowledge is of great service both to the architect and to the carver.

I have spoken previously of contagious enthusiasm as if it were the *summum bonum* of carving; it is needless to remark that this enthusiasm must be properly directed; it must be placed at the back of knowledge to encourage and direct. All the enthusiasm in the world without knowledge is more or less useless.

How is this knowledge to be secured in the fullest degree? In one mode of development we are unfortunately retrograding, *viz.* that of apprenticeship. Until the present generation—in fact, until almost within the last decade—apprenticeship was general, the master taking a keen interest in the welfare of his pupil; but now many masters do not care about apprentices, preferring to take a boy and pay him what he is worth, the sole desire being to make him remunerative. Fortunately in the provinces and in one or two cases in London masters still adhere to the older method, with a result beneficial to the rising artist. I know of one studio where the last three apprentices have left their masters to be successful in immediately entering the Royal Academy schools of sculpture. This is no doubt encouraging to other youths, and is a tribute to the advantages of apprenticeship.

At the present time the training to be obtained in the schools of art has greatly improved on what it was twenty years ago, and now real, useful, living knowledge is being given to the students at some of these institutions; but here again we have no central leading authority to found or carry on any given school of carving. The school of Gibbons was created by his personal force in his work, which was lifted right away from its immediate surroundings to a height carving had not reached for two hundred years. Since his time—or shall we say since the middle of the eighteenth century?—carving has steadily depreciated until towards the end of the nineteenth century.

We must now look for some artist to lead us along the line of progress; if it cannot be done alone, it may be by united efforts. Art is long, and unless we can hand down to the younger generation some of the knowledge we have gained through the years of experience,

so that the threads of our knowledge may be carried on indefinitely, we cannot make such progress as history has painted for us in the past; as, for instance, during the fourteenth and fifteenth centuries, when our Churches formed a school of carving unequalled during succeeding centuries.

Were not the old schools of painting more or less continuous, the pupil often rising above the standard of his master, and so by continued growth the fullest development took place?

I wish it were possible to found such a school for carving. One of the masters in London has given twenty years' hard service, and has probably done more good in this direction than almost all the others combined; we must see that this is carried forward, and to do this we must have the assistance and sympathy of the architects. We want their assistance in advice and presence in the midst of the students; further, now that we have not the religious fervour, which undoubtedly produced some of the best of our work, we must find another spur to help us along. Perhaps the best is ambition; at present ambition in a carver is almost dead; he cannot see where it will lead him. Working for a competence is not ambition. True ambition must be unselfish—not seeking personal profit, if personal honour. A wreath of laurels to the Roman was oftentimes more than gifts of palaces, gold, or silver. Can we not find some fitting crown for a man who will rise above his fellows in our art? Grinling Gibbons was made master-carver to King George I.—perhaps the only honour that was ever done a carver since the sixteenth century, when, especially in Italy and France, it was the custom of kings and princes to do honour to artists irrespective of their branch of art. Many nobles, as well as kings and princes, kept in their retinues artists in all the various materials. You yourselves give honour to the man who renders assistance to the science of architecture. Does not a carver who renders equal service to the art of architecture deserve some recognition?

I raise this point for your consideration, whether you can by rousing ambition secure that love of carving which was in the early carvers, and which I am convinced is still smouldering in the hearts of not a few to-day.

I notice on your card of meetings you give a "Gold Medal." Why not extend this to the allied arts, and present annually, or even triennially, an award of merit to the individual who has done something to raise the standard of his art?—be it in mural decoration, stained glass, plaster-work, wood-carving, or any other branch of architectural work—and let such recognition be public, so that the award shall carry with it the good opinion of all thoughtful and art-loving men. This will to some extent arouse the ambition of the younger generation, who will more readily give their time to study and earnest work. But the opportunity must be created for continued study; we must have a central school directed by men of knowledge. We have seen that in the sixteenth century it was not a wood-carver who founded the great Italian Revival, but a master mind, a great artist and a practical architect, who produced through his pupils and assistants what he himself designed. There is no doubt in my mind that it was Wren who created the later seventeenth and early eighteenth century work; and by looking at the past we are able to judge of the future, so that in all probability we must look to the architectural profession to raise the standard of the work: the architect is the master, the carver being the servant; but a direct and living sympathy must at all times exist between them if the best results are to be obtained.

I am afraid my Paper has not taken up the question of wood-carving quite in the spirit that may have been anticipated. I should like, if I have time, to show a few photos of Gibbons's and other works, as also examples of modern carving, making various remarks on the same, pointing out the change in the history of English work; also where we fail, and where we may possibly improve. The detractors of Gibbons's carving say he was not architectural in his work.

In this I agree to some extent, as already instanced in the reredos at St. James's, Piccadilly; but who will question the greater part of his wood and stone carving at St. Paul's; also at Hampton Court; Trinity College, Cambridge; and some of the work at Belton House; the ceiling at Petworth, and many others? Further, should these detractors prove true, as true they are to some extent, is it not evidence of what I contend, that the architect is the responsible person to whom we must look for guidance and the uplifting of the art of wood-carving?

I would also like to point out a little difficulty carvers are continually meeting with, "architects' sketches of carving." Very often an architect will mark on his drawing the word "carving"; to that we do not object; but sometimes before the drawing leaves his office, his assistant—often a junior—puts on a rough sketch of what he thinks is required; the carver is invariably affected by whatever is shown, no matter how rough. This is really an important point, and as a carver I would suggest that whatever may be shown on the drawing should be strictly indicative of what the architect desires. As a typical instance we get half-inch scale drawing showing a circular shield: the carver naturally prepares his model on these lines; the architect, afterwards, sends a clever sketch of a free shield, the result being that the carver (sometimes) produces a clever piece of carving by its inspiration. If we can get architects to treat wood-carvers as fellow artists, showing them often from where they get their inspiration, never hesitating to give them a reference as to where the idea may be found which the architect desires developing, this would materially help in inspiring the work in question. With regard to my other suggestions, viz. a desire for simplicity, the assistance of architects, and finally the school for carving, these, especially the latter, are matters which we may all help forward. It may be a matter of time, but the efforts of a few hard workers would do much to realise the dream of those who have the welfare of wood-carving at heart; so that

"The ideal beauty
Which the creative faculty of mind
Fashions and follows in a thousand shapes
[May be] more lovely than the real."



DISCUSSION OF THE FOREGOING PAPERS.

Mr. LEONARD STOKES, *Vice-President*, in the Chair.

MR. GEORGE HUBBARD, F.S.A. [F.], said it was his pleasing duty to propose a vote of thanks to the two lecturers. The subject dealt with was essentially one of the high arts, and it became increasingly difficult to criticise this art, as the leading architects of the day had but just been telling them that one could not examine or criticise in art. He did not know exactly what they meant, but those present would appreciate the difficulty in which he was placed on this occasion. Perhaps one began slightly to realise their contention in looking at one of the photographs on the screen which showed a good deal of the carving executed by Grinling Gibbons. The carving originally had been in the Chapel of Winchester College. Some forty-five years ago, however, a leading architect of that time, Mr. Butterfield, had instructions to carry out certain works at this chapel, and when he saw the carving in question, which was among the very finest specimens of carving in this country, he did not, the speaker supposed, consider it quite appropriate, or perhaps he considered his own Gothic work more suitable. At all events, the Renaissance carving of Grinling Gibbons was removed from Winchester College Chapel, and the Gothic work of Mr. Butterfield was substituted. Whether that carving was appropriate or not to the chapel was a question beyond criticism; but if he might as a humble architect represent any opinion at all, he was inclined to think that, handsome as it was in the room depicted in the photograph, it might have been still handsomer in its original place where Grinling Gibbons intended it to be erected. The big drop among Mr. Martyn's exhibits on the opposite wall was a good example of a copy of Grinling Gibbons' work. One of the characteristics of his work was that he neither enlarged nor diminished the natural size of the foliage or flowers or fruit he was depicting. He so deeply undercut his work that a truly realistic effect was obtained, and every flower or fruit could be, as it were, picked from the wall where it was hanging. The realistic effect thus given was perhaps the chief characteristic of his work. The lecturers had pointed out how the best effects in their art might be obtained. But there was a great deal more in wood carving than just the effect that was attempted to be gained from the artistic point of view. Behind the artistic veneer there was a certain sentiment, and it was the duty of the architect or the carver to represent that sentiment in his work. Architecture and carving should embody that sentiment quite apart from the purely artistic effect. If one took the long panel exhibited [see illustration, p. 294] one was somewhat confused to know in what posi-

tion that could appropriately be placed. It was a handsome piece of work from the purely art point of view, but it was really difficult to say whether it was intended for a church or a ballroom. The chernub with wings growing out of its shoulder-blades seemed to imply a certain ecclesiastical effect, and the acanthus-leaves bursting out into flowers seemed to suggest a ballroom effect. He felt that there was a certain difficulty in determining where such a piece of work could possibly be appropriately placed. The lecturers, especially Mr. Martyn, had very properly pointed out that it was for the architect to instruct the carver in the sentiment that was to be conveyed in the executed work. Their thanks were due to the lecturers for giving them such instructive lectures, and for exhibiting so many examples of their art and photographs of their work. One also learned to appreciate some of the difficulties under which they laboured, difficulties which might be lightened if architects and carvers worked together to achieve the result.

MISS ELEANOR ROWE, who rose at the instance of the Chairman to second the vote of thanks, said that as a sister carver the lecturers would know that she realised and appreciated many of the difficulties they had spoken of. Mr. Aumonier's remarks about the treatment of the ground and the mouldings were most helpful, and carvers would do well to bear them in mind. The ground of the carving should be one with the ornament, and not too detached and too mechanical, as was, she was afraid, too often the case in modern carving. She should like to have heard something more said about pierced carving, and as to the way the Gothic carvers treated it. In Gothic work the carving was pierced and applied to hollow mouldings; the back was a little distance from it, and a wonderful effect was obtained. In some of the screens the effect of the piercing work was very satisfactory. There were panels in a pulpit at Coldridge treated with most excellent effect. She should be very sorry to see any attempt to revive Grinling Gibbons' carving; yet all carvers might learn an immense deal from it. The treatment of his foliage and flowers was admirable; he knew exactly what to take and what to omit; but she did not like the effect of the fret cut and applied ornament. It looked a great deal too detached. There seemed always a want of harmony in a Gibbons room: take, for instance, St. Lawrence Jewry, although the carving in itself was very beautiful. The suggestion that a gold medal should be offered to wood-carvers was excellent; such an award would be a great encouragement to them, and she hoped the Institute might see their way to adopting the suggestion. She had much

pleasure in seconding the vote of thanks to the lecturers for their very interesting Papers, and much appreciated the honour done to her in being asked to do so.

MR. W. H. ATKIN-BERRY [P.], speaking in support of the vote of thanks, said that Mr. Martyn's Paper would appeal to the warmest sympathies of all present. He had spoken of that indefinable thing called "spirit" in the work, and had contrasted the commercial spirit with the true artistic spirit: the commercial spirit was the bane of all that architects strove to achieve, and was unfortunately so prevalent in these days. Mr. Martyn had said that the architect made the carver. That might be so, but he thought the architect was very much in the hands of the carver, and was greatly dependent on him. The carver might make or mar the work of the architect according to the spirit in which the carver's work was executed. Mr. Martyn had spoken of the enthusiasm which was necessary to the success of the art. They knew that enthusiasm in art was a potent force if it had scope and due encouragement; but it might become chilled and withered by the want of encouragement. Architects themselves had often to deplore that want of encouragement from those who employed them. They were not absolute masters of the situation. They were in the hands of those who paid for the work; and often when they would like to employ the best talent they were prevented by the want of encouragement and true enthusiasm on the part of their clients. Therefore architects must not be held entirely responsible for making the carver. Mr. Martyn had referred to the practice of the architect's writing the word "carving" on his drawing, and then some other hand attempting to interpret that word and spoiling the whole thing. He thought it would often be very much better if the architect left the word "carving" to be interpreted by the carver, because if he had a carver of the right sort he was quite certain he would get carving of the right sort. He had great pleasure in supporting the vote of thanks for the Papers, and also for the delightful specimens of carving which the lecturers had shown, and which were really quite as eloquent as any Papers could be.

MR. H. INIGO TRIGGS [A.], who was called on by the Chairman, said as far as English work was concerned he had chiefly studied the works of Inigo Jones, who had done so much towards furthering the art of wood-carving in England. In Worcester College, Oxford, he had had the pleasure of going through the whole of the original sketches Inigo Jones had made for wood-carvers, and had been much struck to see how very minutely he sketched out all the work which had to be executed for him, and certainly did not write the word "carving" on his drawings. He understood that up to that time carving had been very much left to the carver himself, but after examining those drawings of Inigo Jones he saw that could not

have been the case. He was afraid architects did not value that wonderful collection at Worcester College, Oxford, as much as they should. These drawings would be of great interest if exhibited at the Institute. It was marvellous the amount of work Inigo Jones put into his drawings. Sometimes it was said that Wren had started the English craftsmen; he thought, however, that Inigo Jones was a little before Wren in that respect. In conclusion, the speaker said he had seen a good deal of Mr. Aumonier's work at Oxford, and he had always taken pleasure in looking at it.

MR. J. D. GRACE [H.A.] said he had taken a great deal of interest in wood-carving, and he had followed the Papers with close attention. There were some points he thought it might perhaps be worth laying a little stress upon. First of all, he entirely agreed with Mr. Martyn's view that Grinling Gibbons became valuable to architects as a carver, apart from the *tour de force* of his powers, from the time he came under the direction of Wren. His work when subjected to architectural direction became at once valuable to the building; and so long as the carving, however beautiful, did not contribute to the beauty of what it was put to adorn, it ceased to have value from the architect's point of view. In examining Grinling Gibbons' work, or work done under him and in connection with him, too much stress could not be laid upon the extremely able treatment of the mouldings. Where the mouldings were not near the eye, and were run in large lengths and great continuity, the wood mouldings never had their contours disturbed. In Wren's work, almost throughout St. Paul's for instance, and in other places too, it will be found that the original section of the moulding can always be read right through as an undisturbed surface. That was one of the great charms of the work done by Grinling Gibbons under Wren's direction. It was observable in the simplest little strap mouldings or in the most beautiful ogee work. There was a fine example in a place so accessible that it was a pity to overlook it—viz. the chapel of Trinity College, Oxford. For of the most beautiful examples of the woodwork of Wren's time the chapel of Trinity College, Oxford, was quite among the first. He did not think either of the readers of the Papers had laid sufficient stress on the value of French work. The fifteenth and sixteenth centuries had been mentioned very often, but he had heard no allusion to the stalls at Amiens or at Auch, which were superb, and far beyond anything in England. Another point wood-carvers of the present day seemed inclined to overlook was the great importance in ornamental work, and especially in scrollwork, of maintaining the line of interest in ornament. In the panels exhibited, done in what he should call Grinling Gibbons' *tour de force* style, the direction of the ornament was very much lost unless one was opposite to it. He did not speak

so much of the actual design as the extraordinary knowledge of effect with which the old Italian carvers worked, as in the panels in the stalls at San Pietro, Perugia, and again in the beautiful work at the Vatican. The detail of the ornament was very elaborate, but the line of scroll was never lost sight of. It might be a bold piece of foliage or a mere string-like stem, but the light and shade always maintained the *motif* as a first feature. That was a thing very much lost sight of now. With reference to the Renaissance French and Italian carving, in both there was a life and delicacy quite unknown in English work. There was a most beautiful example in the stalls of a church and the cathedral at Bergamo. It was a good many years since he was there, but he retained his impression of the stalls, which had a number of children carved in wood surmounting the stalls and the arms of the stalls. There must be over 200 of these little gems of work—some of the most beautiful and natural representations of children that were ever produced. They should certainly be well studied by wood-carvers as an admirable example of the way in which the more independent form of wood-carving could be carried out.

THE CHAIRMAN, in putting the vote, said all would agree that they had had two most admirable Papers. Mr. Aumonier had, so to speak, dealt with the practical side, and Mr. Martyn seemed to be full of enthusiasm and vigour upon the theoretical side, although they were largely indebted to him for the examples of practical work exhibited in the room. That showed clearly that, however imbued with theoretical ardour Mr. Martyn might be, he was also imbued with practical knowledge. They must all admit that while there were carvers and carvers, there were also architects and architects; so that, while it might be wise for some architects to write "carving" on their drawings, and leave it to the carvers, it might be wise for other architects to do a little more than simply write the word "carving." They might have sufficient knowledge—and he hoped they had—to talk a little to the carver and suggest to him the sort of thing they wished to see carved on their building. He did not think they could lay down any hard-and-fast rules. But what Mr. Martyn said was very true: it would be most valuable for carvers to know something about architecture. Many of their buildings suffered from this want of knowledge in the carvers. They got natural foliage trickling about their buildings which they hoped from the sketches or models they saw were not going to be quite so natural or quite so tricky. With regard to Grinling Gibbons, although they might not all hold exactly his views on the precise type he adopted, they could not help admitting that his work was full of genius. Mr. Hubbard seemed to be disturbed as to whether one of the pieces on the wall was meant for a ballroom or a church, and he said that the cherub was more suitable for the church. He himself thought the

cherub was occasionally most suitable to a ballroom! Though he thought Gibbons was a great master, at the same time he never could quite feel at home with Gibbons' sort of detached sentiment, his work being carved and applied. Having himself been brought up on the good old Gothic principle that the carving should be done out of a chunk of wood, he was afraid he should die in those principles. At the same time, he could not help feeling that this applied work had a charm of its own; so that he thought they should probably each go his own way. Some would have their work carved out of the chunk, and some would have the carving applied as in the manner of Grinling Gibbons.

MR. W. AUMONIER, in reply, said he had not referred to the Amiens work mentioned by Mr. Crace, as he had expressly stated that he should not deal historically with the subject. They would find that he had mentioned the Amiens work in a previous Paper read at the Institute. The speaker said he should like to give an instance of the want of appreciation of good work among men of the highest culture in England. He knew the Grinling Gibbons' work at Trinity College, Oxford, many years ago when it was all beautifully dirty. Some years ago he was at Oxford and he went into Trinity College again to see the work in company with one of the professors. The moment he entered and glanced at the carving he thought they had been cleaning it: it looked quite white and new. Going close up to it, however, he found that the authorities had had every inch of that beautiful work covered with an oil paint. That was the way they took care of the priceless examples remaining to them of old work!

MR. A. W. MARTYN, in the course of his reply, speaking of ground work, said that the value of the Gothic carving was always taken from the face of the work, but in the classic carving the value was always taken from the background. He desired to thank Mr. H. A. Prothero for the use of the several examples of old work, and the fine photos of fifteenth century screens; also Messrs. Hudson & Kim for their kindness in lending photos of original Gibbons work.

MR. J. D. CRACE [*H.A.*], in a communication to the Editor of the *JOURNAL* dated 4th April, says:—

"After the discussion on the Papers on wood-carving, Mr. Aumonier stated, in reference to my mention of the woodwork in Trinity College Chapel, Oxford, that since he had seen it that woodwork had all been painted white. As it is ten years since I saw it I could not contradict him; but I afterwards wrote to a 'Trinity' friend to make sure. It will be a relief to those interested to know that it is *not* painted white. It may have been at some time; but my friend says that, at any rate during the twelve years he has known it, there has been no paint on it. It is light in colour, and was probably cleaned at some time before that."

REPORT OF THE REGISTRATION COMMITTEE.

TO THE ROYAL INSTITUTE OF BRITISH ARCHITECTS,—

The Committee have the honour to report that a Sub-Committee have held fifteen sittings, and have heard the evidence and views of twenty-four architects from various parts of England, Ireland, and Scotland.

As a result of their deliberations, the Committee are impressed with the desire of many Architects (especially those who are practising in the provinces) that a legal status should be given to duly qualified practitioners in Architecture, and they are of opinion that this can be met by applying to Parliament for a legal Diploma of Membership of the Royal Institute of British Architects, it being made compulsory that after (say) 1912 all Architects, before receiving this Diploma, must have passed through a definite course of Architectural Education in a recognised School.

The Committee believe that in a short time if this were done the holding of such a Diploma would prove to be of professional value to all practising Architects.

It is generally admitted by the advocates of the present draft Bill that the only chance of getting Parliamentary powers to carry out such a penalising proposal as the registration of the title of Architect would be: (1) by placing the registration in the hands of a Board partly composed of members outside the Institute, though it is suggested that the Institute should be largely represented upon it; and (2) by exempting from its operations all the members of the Institutions of Surveyors and Civil Engineers. It is also generally admitted that the standard for admission to such Registration would have to be a low one.

The Committee believe that unless the profession can approach Parliament with approximate unanimity there is little chance, in the present state of public business in the House of Commons, of getting any contentious measure passed.

The Committee therefore recommend that at present the Institute should confine itself to attempting to obtain Parliamentary recognition for its membership, an attempt which, they believe, would meet with very general support. Such State recognition would encourage Education and raise the qualifications of Architects, and would at the same time avoid the temporary necessity of granting a statutory title to unqualified men.

The Committee recommend that the title of the Institute be changed to that of "The Royal College of Architects," and that a temporary third class of professional members be established.

As an Appendix to this Report the Committee submit an outline of suggestions to give effect to the recommendations herein contained.

The Committee beg leave to state that this Report has been adopted by them unanimously at a meeting on the 20th March 1906, at which the following members were present:—

Edwin T. Hall (*Vice-President*),
in the Chair.

R. S. Balfour.

W. H. Atkin Berry.

A. W. Brewill (Nottingham).

J. J. Burnet (Glasgow).

J. T. Cackett (Newcastle).

W. D. Caröe.

T. E. Collcutt.

A. W. S. Cross.

E. Guy Dawber.

E. M. Gibbs (Sheffield).

J. S. Gibson.

W. J. Gilliland (Belfast).

Alexander Graham (*Hon. Secretary*).

E. A. Gruning.

G. H. Oatley (Bristol).

George Hubbard.

H. V. Lanchester.

A. N. Prentice.

G. H. Fellowes-Prynné.

John W. Simpson.

John Slater.

Leonard Stokes (*Vice-President*).

C. Harrison Townsend.

Paul Waterhouse.

Sir Aston Webb.

Edmund Woodthorpe.

The President, whose absence through illness was deeply regretted, together with Mr. H. T. Hare, *Vice-President*, and Mr. J. A. Gotch, who were unavoidably prevented from attending, have desired their names to be added to those appearing.

By order of the Registration Committee,

20th March 1906.

W. J. LOCKE, *Secretary*.

APPENDIX TO THE REPORT.

HEADS OF SCHEME FOR RAISING QUALIFICATION OF ARCHITECTS.

1. Revise the Charter, and
2. Submit a Bill to Parliament.

CHARTER REVISION.

- (a) Change name to Royal College of Architects, and the affixes F.R.I.B.A. and A.R.I.B.A. to F.R.C.A. and A.R.C.A.
- (b) Substantive provision—In future Fellows to be elected
 - (1) after 1906 from those who have passed the Associates' Examination; or
 - (2) by Council in special cases.
- (c) To authorise the constitution of a scheme of education to be compulsory on all candidates coming up for examination after 1912.
- (d) Create new subscribing class of temporary duration, without the power of voting, to be called Licentiates (L.R.C.A.), at a low fee, to admit *bond fide* Architects who are not eligible for F. or A.R.C.A.

All members of Allied or other Societies of Architects, found eligible by the Council of the R.C.A., to be admitted as Licentiates without election. Admission to class to be closed within a year after the passing of the Act.

All to sign declaration and obligation as to Professional Conduct.

- (e) F., A., and L. to be defined as Professional Members.
- (f) Disciplinary powers to be increased with power of appeal.

BILL TO PARLIAMENT.

Declare it is in public interest that Employers should be enabled to distinguish between Architects recognised as qualified by a competent authority and those not so recognised.

Enact

- (a) Following the precedent of the Law Society, the Royal College of Architects (already recognised by Parliament as authority for granting certificates required by District Surveyors before they can receive appointments) be empowered and required, by its Council, to institute and supervise Education and Examination of Architects for admission to the R.C.A. and to confer the titles F.R.C.A. and A.R.C.A.
Confirming all such present titles.
- (b) Give statutory force to present Charters.
- (c) Legalise scale of charges, to be approved by Privy Council, for all Professional Members of R.C.A.
- (d) Municipalities and other Public Bodies acting in fiduciary position shall on the erection or alteration of buildings in cities or towns employ a Professional Member of the R.C.A.

(N.B.—It is a question if clause (d) should be introduced, but it is likely to commend itself to Parliament, and it follows a policy long supported by the Council and by a large number of the members of the Institute. At the worst it could be struck out of the Bill.)

MEMORANDUM ACCOMPANYING THE REGISTRATION COMMITTEE'S REPORT.

In accordance with a resolution of the Registration Committee the President appointed in October last a Sub-Committee, consisting of the following: Sir William Emerson, Sir Aston Webb, Messrs. J. Slater and T. E. Colcutt on the one side, and Messrs. J. S. Gibson, A. W. S. Cross, W. H. Seth-Smith, and George Hubbard, on the other side, with the President as Chairman. Subsequently, owing to Sir Wm. Emerson's absence in India, Mr. Edwin T. Hall was nominated by the President to take his place, and the President's selection was subsequently confirmed by the Registration Committee.

At the first meeting of the Sub-Committee, on 25th October 1905, the following procedure was agreed upon—viz. to summon twenty-four witnesses, comprising six metropolitan and six provincial architects in favour of registration, and a similar number of metropolitan and provincial architects holding the opposite view, the witnesses to be summoned to give their personal opinion on the question.

The first meeting for the examination of witnesses was held on 22nd November, and eleven subsequent meetings were held, when the following twenty-four gentlemen were good enough to attend and express their opinions before the Committee. Those in favour were: Messrs. W. Gillbee Scott, H. A. Saul, Lewis Solomon, Ellis Marsland (Hon. Secretary Society of Architects), H. W. Wills, F. R. Farrow, H. L. Goddard (Leicester), S. Perkins Pick (Leicester), H. Smith (Bristol), W. J. Gilliland (Belfast), J. W. Beaumont (Manchester), John Keppie (Glasgow); and against them Messrs. J. Macvicar Anderson, Professor Beresford Pite, Reginald Blomfield, A.R.A., Basil Champneys, H. H. Statham, T. G. Jackson, R.A., C. Hadfield (Sheffield), Professor Capper (Manchester), J. J. Burnet (Glasgow), J. A. Gotch (Kettering), W. M. Fawcett (Cambridge), and Professor C. H. Reilly (Liverpool).

A shorthand writer was present throughout the proceedings to place the evidence on record.

The Sub-Committee then proceeded to consider its report to the Registration Committee. The general effect of the evidence may be briefly summed up as follows: On the one hand it was strongly felt by the witnesses in favour of registration that the standard of architectural ability would be raised by instituting compulsory training and examination; and also it was thought that, in the interest alike of the public and the Profession, only those who had proved their competence by passing a qualifying examination should be legally entitled to call themselves architects.

On the other side, there was an equally strong feeling that the measure proposed would have a tendency to lower the art of architecture, and that, as the test to be applied must in the opinion of many be a low one, there would inevitably be a tendency to register very poorly qualified men; and that, though examinations might fairly test a man's constructive knowledge, they could not fix a standard in art.

It seemed obvious that with these strongly conflicting views there would be the greatest possible difficulty in obtaining parliamentary sanction to the measure proposed; and the Sub-Committee, after due deliberation, therefore unanimously agreed to the terms of a Report, which was subsequently submitted to and approved at a well-attended meeting of the full Registration Committee held on the 20th inst. It was considered that, amongst the incidental advantages to be obtained by these proposals, and in addition to those mentioned in the Sub-Committee's Report (*a*) it would ensure legal recognition of the Institute's scale of charges; (*b*) it would enable the Institute to deal more effectually with cases of dishonourable professional practice; (*c*) and it would be likely to meet with the fairly unanimous support of the whole body of the Institute.



9, CONDUIT STREET, LONDON, W., 7th April 1906.

CHRONICLE.

Architects' Registration: Discussion on the Institute Committee's Report and Recommendations.

A Special General Meeting, summoned by the Council in accordance with By-law 60, was held on Tuesday, 3rd April, Mr. Edwin T. Hall, *Vice-President*, in the Chair. The objects of the Meeting, in the terms of the notice issued to members with the last number of the *JOURNAL*, were as follows:—

To receive formally the Draft Registration Bill printed in the *JOURNAL* of the 22nd July 1905, and the accompanying Report and Recommendations [see pp. 302-4] of the Registration Committee adopted at a Meeting on the 20th March 1906 when it was Resolved to recommend the Royal Institute to adopt the Scheme outlined in the Report instead of the Draft Registration Bill already published.

The notice paper further stated that the following Resolutions would be proposed from the Chair:—

1. That the Report and Recommendations of the Registration Committee dated 20th March 1906 be adopted.

2. That the Council be requested to take the necessary steps forthwith to apply to His Majesty the King for a Revised or Supplemental Charter embodying the said Report and Recommendations, and also as soon as possible to prepare and present a Bill to Parliament to give effect to the same.

THE CHAIRMAN, in opening the meeting, referred to the continued illness of the President which prevented his being present. They much regretted his absence on account of the importance of the meeting, and no one regretted it more than he (Mr. Hall) did, because, unfortunately, at the President's request, he was obliged to take the Chair, and he could not pretend to anything like the weight that the President would possess on such an occasion. In the circumstances, the Chairman continued, he would ask the kind consideration and generosity of the Meeting.

The Secretary having read the notice convening the meeting as set out above,—

THE CHAIRMAN went on to say that they would

all admit the great importance of the business before them. First, he said, he would lay on the table the Bill which was published in the *JOURNAL* of July 1905 for the Enrolment of Architects, and also the Report of the Registration Committee which was already in members' hands, together with the Appendix and the Memorandum which accompanied it. He would also like to state that Mr. Middleton had given notice of a resolution in proper form, and that when the business immediately before the meeting had been disposed of, Mr. Middleton would have the opportunity of bringing his resolution forward. It would be right, he thought, to give a short outline of the history of the subject now before them. In January 1904 the Institute appointed a Committee to consider the question of Registration. The Committee consisted of the Council and the representatives of the Allied Societies, and eventually other gentlemen from the country were appointed, so that it consisted really of the Council and an equal number of other members. This Committee in due course appointed a sub-committee, which went energetically to work, and was engaged on a scheme when its labours were rendered of no avail by the election which took place in the summer of 1904, when an entirely new Council was appointed. This necessitated the reconstruction of the Committee, and this Committee started *de novo*. It appointed a sub-committee, which held many meetings; and in the result the Committee brought forward a scheme in the form of a Draft Bill, which was published in the *JOURNAL* of July 1905. Just at that time a new election took place, when the *personnel* of the Council was again absolutely altered, and the reconstructed Committee proceeded with the duty which still lay upon it. The Committee felt that it was due to its predecessor to give the most careful consideration to the work that had been done; and further decided that it was not wise to rely upon the knowledge of its own members and their own views in reference to such a debatable matter, but that it would be desirable to take the views and opinions of representative men from all parts of the kingdom. A sub-committee was therefore appointed to do this, and on that sub-committee several gentlemen were placed who had been engaged in the preparation of the previous scheme submitted in the Draft Bill. The procedure on this sub-committee was as follows. Some twenty-four architects from all parts of the country, including Ireland, were asked to appear before the Committee and give evidence, and each member of the sub-committee separately examined every witness that came forward. He thought every one would agree that no better course could have been adopted to obtain a proper elucidation of the very difficult questions before that body. He was perfectly sure that every one on that

sub-committee—he was speaking for all his colleagues—was actuated by one sole object, viz. to get a wise and just decision on a very debatable point. The net result was that they came to certain conclusions, and those conclusions were submitted to the whole Committee. The members of the Committee having had before them the whole of the evidence taken by the sub-committee, came to a unanimous decision, which was before them to-day in the Committee's Report, and they made the unanimous recommendation that the Institute should adopt the scheme outlined in that Report instead of the Draft Bill previously submitted. He would endeavour broadly to set out the objects of that scheme. First they desired to enable the public to distinguish between qualified and unqualified architects. Secondly, as a means to this end it was thought desirable that the name of the Institute should be changed to that of "The Royal College of Architects," following the precedents of other professions—as, for instance, of the Royal College of Surgeons and the Royal College of Physicians. Thirdly, the object was to collect into the Royal Institute of British Architects all qualified architects, and then to apply to Parliament in order to give them a legal diploma and legal titles. When this had been brought about it was decided, and it was recommended, that in future admission should only be by a compulsory training upon lines to be settled by the Institute, and by compulsory examinations. When this was done, with all the accompanying publicity which of necessity would arise from it, it was felt that those who were outside, the unqualified men, might be left alone. People might go to them just as they now go to medical quacks, but in no other sense would they be, in the course of a few years, a factor that need be taken into account. The advantages of this scheme were generally felt to be that instead of giving titles to unqualified men, and so to that extent lowering the immediate prestige and status of the profession for a time, they could proceed at once on an upward course. With regard to the question of alteration of name, naturally many members felt a sentiment for the old title—The Royal Institute of British Architects. That was very natural and laudable: having lived under such a title they must all appreciate it. But if the keynote of the architectural profession was to be compulsory education, then the title of "The Royal College of Architects" had this great advantage, that it connoted this difference, this educational change, in the Institute in the public mind. People were accustomed to think of the Royal College of Surgeons as an educational body, and they would also come to think of the Royal College of Architects as an educational body. It was a dignified title, it was shorter than the present title, and it had the parallels he had before mentioned. As regards the temporary class it was proposed to add to the Institute, they must all appreciate the fact that the Committee was very

jealous of interference with the rank and the dignity of the Fellows and Associates of the Institute. They all appreciated the energy and the ability of those gentlemen who had through much labour passed the examinations of the Institute and taken their Associateship. Therefore, although they were desirous of drawing in all *bona fide* architects to the Institute, they could not think of giving them the position which had been earned by others only by great effort. They could not fail to recognise that there were a great many men outside the Institute, some of whom were eligible for Fellowship and others for the Associateship, if they passed the examinations. But there was a third class. There was the class of man who was honourable and upright and a *bona fide* architect, and who was entitled to their respect, although they could not offer him either the Fellowship or Associateship. But they must all agree that it was eminently desirable that they should identify those gentlemen with the interests they desired to further, and so the Committee suggested the creation of a temporary class, to be called "Licentiates," which was only intended to be open for twelve months after the passing of the proposed Act, when it would be closed; and after that date no one should come in who had not passed through the examinations for the Associateship or the educational course it was proposed to set before them. These three classes it was proposed should be called "Professional Members." A further object was that the disciplinary powers of the Royal College should be increased. Many witnesses, he regretted to say, had informed the sub-committee that dishonourable practices were not uncommon in different parts of the United Kingdom. Personally he was glad to say that he had never known in his life but one architect who had been guilty of dishonourable conduct, and it had been a revelation to him to hear of these dishonourable practices. At the same time they sympathised thoroughly with those who had suffered thereby, and they had come to the conclusion that, assuming the evil did exist, the disciplinary powers of the Institute should be increased, and power should be got from Parliament to make it a real punishment to a man to be turned out for a dishonourable action. Further, they thought it desirable that the Institute Scale of Charges should be legalised, so that it might be pleaded in a Court of Law and there should be no answer to it. That was a perfectly reasonable and honourable thing. It followed the precedent of the Solicitors Act, and there was no reason why it should not be obtained. Lastly, they thought that in respect of public buildings it was desirable that endeavour should be made to obtain from Parliament a stipulation that public buildings should be designed and carried out only by qualified architects. There was a great awakening of interest in architecture among the public, and it was felt that they might legitimately hold out the hope that members of municipalities having a pride in their cities would desire that

none but qualified men should be employed to carry out the designs for municipal buildings. He had now laid down the general outlines on which the Committee had framed their Report, and he could not but think that they were reasonable lines, and that they must commend themselves to the Institute because they all had but one object—viz. the honourable progress of the profession to which they owed so much, and of which they were all so proud. They hoped that if this project were carried through it would meet with the general support of all right-thinking men in the country. There had been some suspicion of disunion among the profession, but the new proposals would, he believed, tend to unity, and he earnestly asked them on behalf of the Registration Committee to approve the scheme. It was the natural evolution—not revolution—of the Institute; and it would tend to raise their status—if that were a right word to use—it would tend, at all events, to raise them in the public estimation, and would show that every man who practised architecture was actuated by an honourable desire to do that which was right and best for the profession he practised. The Chairman then moved the first resolution—viz. "That the Report and recommendations of the Registration Committee dated 20th March 1906 be adopted."

Sir Astor Warr, B.A., *Past President*, said he could not help hoping, and very sincerely hoping, that they were going to be unanimous about the matter before them. He hoped that they would show a determined and decided unanimity, and carry it through. The Institute had appointed a Committee to consider the question, and for two years they had been considering it, spending time which was of the utmost value to every member of that Committee, and they had in the result arrived at the unanimous Report submitted to the present Meeting. He hoped that the Institute, after appointing the Committee which had given so much time and labour to the work, would loyally support them, and adopt their Report and recommendations. The Chairman had so ably and so fully placed before the Meeting all the details of what was proposed, that he himself would detain them for but a very few minutes. He should like to say that the evidence taken by the Committee had been printed, and he had some hopes that it might have been in their hands, so that they could see the arguments for and against registration that had been put forward by the witnesses. They would, however, understand that in matters of this sort a man would say confidentially to a committee what he might not altogether wish to publish; and although he hoped that at some time, at any rate, a *précis* of what had been stated would be at the disposal of members, it was obvious at the moment that was not possible. If they could see the evidence, he was quite sure they would see how much there was to be said on both sides of the question. The

Committee came to consider their report with that feeling, and all the members of the Committee were very much impressed with how much could be said on both sides. He would not attempt now to meet any objections which might be raised; he hoped there were none—at any rate, he personally had not heard of any serious objections. He was very pleased, when the Registration Committee met, that there were practically no objections, and that they seemed to think that the sub-committee had suggested a means by which a step might be taken that many wished for. Some would, of course, think that the Committee had not gone far enough. Others would think that they had gone too far. He could only say that he hoped both sides would agree that, for once in a way, they could not each get exactly what they wanted. He did not know whether any of those present had ever been able to do this—he (the speaker) never had—and he did not suppose any mortal man could propose a scheme which would suit everybody. In this they had, at any rate, met as nearly as they could the views of both sides—very strong views, very determined views, and views which they did not ignore at all—but as men of reason they had endeavoured to select that which would meet as far as possible the general wish, and to secure what they were so anxious to obtain—viz. more unanimity among the profession. If members could see their way to adopt this they would be doing a great good to the Institute. They would relieve the profession from a very tedious and irritating discussion which had gone on for years. They would put the means of education for their young men on a much sounder basis, and they would also put the Institute on a sounder basis. If they obtained the statutory powers proposed, they would, as the Chairman had said, be in a better position before the world. He did not attach so very much importance to that, but he did attach importance to their finding themselves united over the matter, and being able to give their efforts towards the advancement of architecture, which he believed, by settling this question, they should do. One further point he would refer to. It was stated in the Report that the standard of compulsory registration would have to be a very low one. Some had asked, How did they know that? They knew it partly by the evidence given before the Committee. A very distinguished architect in his evidence said he felt sure that no examiner, if he found a candidate good in certain points, would dare to refuse him the right to practise as an architect because he did not like his design. Another witness, an extremely interesting witness, Professor Capper of Manchester—he was glad to see him present among them that evening—who was in Quebec when registration was started there, and who was in that country and took an active part in educational work for several years after registration had been in vogue, had given his

opinion that the qualification must be a low one, that when they were examining men for the right of earning their bread and butter no human examiner could be got to fix a very high standard on the art side when he knew that the men's living depended on it. He mentioned that as the ground and reason for putting in the Report that the standard for admission would have to be a low one. In conclusion he could only repeat that they were met there with an opportunity of bringing this question to a close, or at all events of carrying it a step further—of giving powers which architects had never had before. If their proposals were accepted, the Council, he was sure, would take the best care to carry the scheme through as quickly as possible. If they were refused, they should all be in the mill again: no advance would be made, and many of them would feel disheartened and unable in the future to take further part in the controversy. At present, they were all willing, whatever feeling they had, to do their best to carry the scheme through and see how it worked. He believed it would work, and that it would work for the good of architecture and for the good of architects. He hoped most sincerely that the Meeting would take that view, and that they would support their Committee in the recommendations they had made.

Mr. J. S. GIBSON [*F.*] said he should like to corroborate what Sir Aston Webb had said, and also to state that they were indebted to the Chairman for the lucid and clear way in which the Report of the Registration Committee had been explained to the Meeting. As a member, he might say, of all the Registration Committees, and having spent a considerable amount of time in trying to obtain information on this much-debated subject, he should like just to say a few words on one aspect of it which had not been touched upon that evening. In the first place, it was evident to every one who had taken an interest in the subject, that it had been very prominently brought before the Institute by reason of the expression of opinion of many of the provincial and Allied Societies, the members of those Allied Societies and provincial practising architects generally. During his wanderings up and down the country and from his knowledge and acquaintanceship with men practising in various provincial towns, it had been impressed upon him that there was a feeling among provincial architects that the Institute was very largely concerned with the welfare of its London members; and unfortunately there was among a considerable number of them a feeling that perhaps the Institute might do more as a body for the benefit of members who were not able to come to London and take part in the meetings, and to whom, by reason of their geographical situation, the advantages of the Institute were in a great measure denied. This feeling was a perfectly legitimate one, and this question of registration was, he thought, largely the outcome of

this feeling; that there had been among the provincial practising architects an idea that through registration or some such scheme their position would be improved, and that the Institute, as the chief architectural body of the country, would be helping them in the many little difficulties that beset their practice in towns, and to which, perhaps, London architects were not quite so subject. Perhaps the institution of this original Registration Committee might have been largely due to a feeling of that kind. But, whatever may have been the origin of it, there was no doubt that the work done by the Registration Committee in drafting the Bill published last July and the Report which accompanied it—the work then done was done with the knowledge and the experience based on the evidence which that Committee was enabled to get very largely from representative provincial men, for upon that Committee there were practically equal numbers of London architects and provincial architects. It seemed at the time that the Draft Bill embodied, as far as they were able to judge, the method of procedure which would be the most efficient in giving to the architectural profession the status in the eyes of the law which it had not hitherto possessed. But since that time and since the institution of the reconstructed Registration Committee—the sub-committee more particularly, consisting of the President as Chairman, four anti-registrationists, and four registrationists—they had obtained in a more concrete and a more lucid form a really valuable expression of opinion from representative men. He was quite certain that he spoke not only for his colleagues on the registration side but for the others when he said that it had been borne in upon them that the most important thing was to get such a measure through Parliament as would not only give the Institute, but give the whole profession of architecture an impetus, and that the only means of doing so was by presenting a united front; and that was absolutely impossible under the previous Registration Draft Bill. They were impressed with the fact that they could not go to Parliament with that Draft Registration Bill, or even embody all the principles which were in that Bill, with any chance of taking with them the good feeling, the co-operation and help which they had a right to expect, and which they desired to have, from those more distinguished members who had enabled the Institute and the architectural profession as a whole to occupy in the eyes of the Government and of all responsible persons the position it now held. With that object in view the whole of their energies had been bent on devising a scheme which would give the registrationists probably as much as they dared hope for, and finding in the anti-registrationists a spirit of magnanimity which would enable them to give them a little more, at any rate to frame a proposal which he thought embodied in the main the whole of the

necessary principles which might be—and would be if they were unanimous—passed by the Government, and which undoubtedly would help to place the architectural profession in a far better position than it had ever held before. His own view of the matter was, that with the institution of an efficient and thoroughly well-thought-out scheme of education they would attract better men, they would get better results, and by-and-by they would make better architects. By the institution of a compulsory examination they would put before the younger men the seriousness of really putting their hearts and minds into their work with the view of becoming members of a great and, he hoped, a noble profession. Also, as a very considerable asset from the point of view of practical politics, he thought that if they were enabled to legalise their Scale of Charges they should be in a position they had never occupied before. It would not be possible now to sneer at their charges, and they would occupy, at any rate in the State, a definite position where they could not be easily assailed. Further than this, he might point out that if this whole scheme were carried through—and he thought with Sir Aston Webb that all the members of the Institute, all the men who had worked hard to make the Institute what it was, and who had been members of the Council, and Presidents, and Past-Presidents, were all willing and ready to carry it through, and personally he hoped that they would be unanimous in carrying it through: if this scheme were carried through, the result would be that they would have taken a great step in the right direction, and nothing which was done, nothing which might be done if the Bill was passed, would preclude any further steps being taken in the future which these architects might decide for themselves. The way was open. Difficulties would be very much less than they were; two or three almost insuperable difficulties would be entirely removed in twenty years' time. The result would be that they would probably have done the rough spade work, and could leave it to those who came afterwards to finish what had been begun.—The speaker concluded by seconding the motion before the Meeting.

Mr. G. A. T. MIDDLETON [A.] rising with the intention of proposing an amendment,

THE CHAIRMAN said he would first read to the Meeting a communication they had received from Mr. Middleton, in which he stated that he should move the following amendment to the adoption of the Report, viz. "That this Institute, having considered the Report of the Registration Committee and the Appendix and Memorandum attached thereto, is in favour of the general principle of the statutory qualification of architects." Continuing, the Chairman said he had carefully considered this proposition. It was not, however, an amendment—it was a separate resolution which might be put after the one before the

Meeting had been dealt with; but it was complementary to and practically approved the scheme which the Registration Committee had laid before the Institute.

Mr. MIDDLETON: I have put it on the Agenda paper to prevent any over-precipitancy on the part of the Institute.

THE CHAIRMAN: You can speak to the resolution which is before the Meeting, but you must please not treat this as an amendment to it, nor speak of it as an amendment. You can deal with this presently as a separate resolution, if you like, later on; but I cannot accept it as an amendment to the present resolution.

Mr. MIDDLETON, submitting to the Chairman's ruling, went on to read the resolution passed in January 1904 appointing the Registration Committee, viz. "That a Committee, consisting of the Council of the Royal Institute of British Architects and representatives of the Allied Societies, be appointed to consider the principle of registration and to report thereon to a Special General Meeting." It was, he said, the question of the principle only which was referred to that Committee. They were given no mandate to prepare a Bill; they were given no mandate to prepare a scheme. That Committee reported on the principle [see JOURNAL 22nd July 1905, p. 585] to the effect that they considered that "satisfactory training, education, and examination can only be secured by means of the statutory qualification of architects. And, further, the present system of obligatory examination having proved of great advantage to the Institute and the profession an extension of this system by making it compulsory on all intending architects would still further improve their status." So far the Committee was entirely within its scope. It had, however, prepared a Bill, and whether that Bill were a right one or a wrong one he had held all the way through that the Committee had no right to do so. It was good work inasmuch as it showed that a Bill was possible; but even that had already been proved. Then the Committee was changed at the last election of the Council, and it did the very wisest thing that could have been done; it appointed a committee to take evidence and carefully weigh that evidence. What they had heard had assured them all that the Committee had done its work exceedingly carefully, exceedingly wisely, and exceedingly thoroughly, and that although it consisted of strong partisans on both sides, they had acted in a non-partisan spirit. They had very conflicting views put before them, and they had in their Memorandum given a synopsis of those views, and had done so very rightly. But he contended that they had gone further than they had a right to do under the Reference to the Committee. They had drawn up a scheme. It might be a good scheme or it might not. The hope had been expressed that it would meet with unanimous support. In bringing for-

ward the amendment as he proposed, he hoped to have got it passed, and then the Council would have been still free to proceed point by point with their scheme as they felt it convenient. The Chairman, however, had ruled that he would be out of order in doing that. He should like to go through the Report to show that it did contain a large number of contentious points, which it would be a very serious matter for them to adopt *in toto* at one sitting straight away. He did not say that they might not be right, and that upon further and more mature consideration they might not agree with the great majority and possibly with all; but there were many contentious points in the scheme which required this further consideration. First, he supposed that just a word had slipped in, perhaps inadvertently—that it should be compulsory in, say, 1912 that all architects must have passed through a definite course of architectural education in a recognised school. Did they wish to throw over that principle of articleship which had made English architecture? Did they mean to insist that every man after going through his articles should go through a school, whether he was living in some little country town where it was very difficult to obtain such training, or not? He considered that this was a contentious point. The next point he would draw attention to Sir Aston Webb had referred to already, viz. that it was admitted that the standard for admission to registration would have to be a low one; that there would have to be a low examination necessarily for admission to the Royal Institute of British Architects. This, whether it be a Registration Bill which was passed, or whether it be the Bill which was foreshadowed in the present Report, was above everything an educational measure. He had had as an architectural tutor something over twenty years' experience, and during all that time he could say that he had met very few young men who had not the ability necessary to enable them to reach a satisfactory standard. He had met a great number who, finding that the Institute examinations or other examinations were a little bit difficult, possessing the power, possessing the ability to qualify for them, had flunked them, thrown up the sponge—not thrown up architecture, but had gone back into the provinces to practise on a very much lower standard than they could have practised if it had been compulsory for them to have passed a proper examination. That, he thought, was another slightly contentious point. Then, again: "That this Institute should be called the Royal College of Architects." He saw no great objection to that; there might be good reasons in favour of it. There was, however, a sentimental objection on the part of many, and he thought it had been echoed that evening, and constituted another highly contentious point which ought to be threshed out at greater length. They ought not to adopt all these contentious points at one sitting. Further, under

the head of "Charter Revision," "that in future Fellows shall be elected by the Council in special cases," he was one of those who greatly deplored what happened a month ago; but in face of it, could they say that it was non-contentious to give the Council power immediately to elect to Fellowship in special cases? He thought that a distinctly contentious point.

THE CHAIRMAN: That is in the present Charter.

Mr. MIDDLETON, continuing, said that under (d) in the Appendix it was proposed to form a huge class of Licentiates who would be without the power of voting—"to admit *bona fide* architects who are not eligible for Fellowship or Associateship." That, again, seemed a highly contentious matter. It seemed like going back to the old Associate class of over thirty years ago; an excessively retrograde step. It was a class which he as a comparatively young man could hardly remember as being in existence, but he could remember that there were a considerable number who had not passed examinations who were Associates in his earlier years. He remembered the class was not thought much of, and they had to alter that. He should not like to see a reversion to the old state of things. As to admission to it, he thought they would have to consult those who wished to be admitted. At the present time they would find that there were not very many who would care to join the Institute in a lower rank than the Associates, without power to vote; those who were of any standing at all—the very men one would like to draw into the Institute—would not thereby be drawn. Some other means might be found, but these were highly contentious points which would require a good deal more careful consideration by the whole Institute before they adopted them. They were, of course, all in agreement as to the necessity for additional disciplinary powers either by the Institute or by some other way, especially after what the Chairman had said. Another highly contentious point was as to the Scale of Charges. He was not at all sure himself as to the advisability of legalising a Scale of Charges, and he had very strong reasons to suspect that there would not be the slightest chance of getting parliamentary sanction to it. It was given to solicitors a very long while ago, and had not been given to any other profession since. It was refused to the doctors. It had been refused to every other body. Architects at any rate had no taxing-masters. This again was an exceedingly contentious point. He therefore would object to the adoption of the Report *in toto*, although he was entirely in favour of its general principle.

Mr. J. DOUGLASS MATHEWS [P.] said he would go back a few years in the work of the Institute, and certainly the present was a case of history repeating itself. As regards the diploma mentioned in the Report, those of them who could recall forty years ago would remember the discussions which then took place. At that time, when there

was a talk about applying to Parliament for a diploma, he said that it was perfectly certain there was no chance of getting one until something had been done by the Institute itself. He then proposed that admission to the Institute should be by examination, which was carried; and he thought they had every reason to be satisfied with the results which had taken place between that time and this. In addition to this, the present Chairman (Mr. Hall), with others, took a great deal of interest—he thought it was in the year 1886—in the question of registration, or federation as it was then called; and their old deceased friend, Mr. Pink, took a great deal of trouble in reference to it, and certain suggestions were made and published by the Institute. He had the Paper now before him, and amongst other opinions then printed was one from Mr. Edwin T. Hall, to which he should like to call attention. After dealing with the Fellowship and Associateship of the Institute, Mr. Hall suggested “A new class to be created in the Royal Institute of British Architects, to be called ‘Members.’ Use affix M.R.I.B.A. Qualifications:—At least twenty-five years of age, eight years in profession, three of which either as (a) Principal or (b) Surveyor to Guild or Public Company, or (c) Chief of Governmental or Municipal Department having charge of buildings or works, or administration of technical provision of Statutes. After . . . years class to be closed, except to Associates of Royal Institute of British Architects.” He, the speaker, ventured to take practically the same view. He suggested the following: “If it be found that there is any considerable number of such persons, a new class might be established, to be called Subscribing Members, who should comply with the existing By-laws as to membership, and be recommended by responsible persons, not necessarily Fellows of the Royal Institute of British Architects, but in all cases approved by the Council. To pay a subscription of 21s. per annum, entitling them to a copy of the publications, and, if resident beyond twelve miles from London, to attend the ordinary meetings. This class to have no vote, and their membership to give them no professional status. I look upon this class as a temporary one for the sake of attaching as many architects as possible, for I believe those who could qualify for Fellows would be induced to do so, and, to the younger men, it would prove an incentive to them to pass the examination and obtain their Associateship, and in so doing have the effect of drawing architects up to the Institute rather than drawing the Institute down to them.” After all this number of years those views had been practically carried out. So far, he quite agreed with the suggestions of the report now before them. There were two or three points to which he should like to call attention: one the last speaker had just referred to, on which he thought they ought to have more direction. That is, that before receiving the diploma

they must pass through a definite course of education in a recognised school. That seemed to be ambiguous and exceedingly vague, and he thought they ought to understand what its meaning was, whether, if there was to be a change in the Institute, it was simply to be an educating or examining body or whether it was to be the representative of the profession. If the former, he took it that the objects would be to establish a course of instruction and to grant diplomas, which, to his mind, was quite outside the usages and the usual work of the Institute. Then, he would also ask, whether it was intended to supersede pupilage? That was a matter upon which they should have very definite particulars; it would give rise, he thought, to a great difference of opinion, and probably objection. Coming to the suggestion of changing the name to “The Royal College of Architects,” he supposed he was one of those who had respect for ancient institutions. The Institute had now been in existence for a great many years. It was well established; it was known perfectly as the Royal Institute of British Architects, and he confessed that, in his opinion, it would be going back if they changed their name. He did not see what they were going to gain by it. There were the Royal College of Surgeons and the Royal College of Physicians, and he believed also the Royal College of Organists. Those, he believed, were the only colleges in all the professions. On the other side, they had the Law Society, the Institute of Actuaries, the Institute of Chartered Accountants, and two or three other societies practically on the same lines as their own Institute; why they should seek to differ from them he did not know. He thought that they could carry out what they proposed perfectly well without altering the name. It was one thing to be a member of a college, and another thing to be a member of a professional society. He hoped that the suggestion to change the name would not be adhered to. Having regard to the great difference of opinion there had been over this matter, and the vast amount of time and consideration given to it for forty years, he was glad to see that, notwithstanding those differences of opinion, those gentlemen who had signed the Report had come to a unanimous decision. He hoped that, with certain alterations, the Report would be carried. At the same time, he quite agreed with Mr. Middleton that they ought not to be asked to carry it as a whole at that meeting. They would adopt the general principles, but he thought there were some details which they ought further to consider and to thresh out thoroughly.

Sir ASTON WENN, R.A., said he had just asked the Chairman's permission to make a proposal. There was a little misunderstanding, he thought. He was sure that the Registration Committee did not, for a moment, ask the Meeting to accept this Report absolutely as it stood. It must, of course, be threshed out by the Council. The Committee's

instructions were to report direct to a General Meeting, and it had not, therefore, been considered by the Council. He wished to suggest that the resolution which had been moved should read as follows: "That the general principles of the Report and Recommendations of the Registration Committee, dated 20th March 1906, be adopted, and the details referred to the Council for further consideration and report to the General Body." He hoped that would meet Mr. Middleton's view also.

Mr. MIDDLETON signified assent.

A MEMBER: I should like to ask whether in the details is included the title of the Institute?

THE CHAIRMAN: Yes.

Mr. F. T. W. GOLDSMITH asked if, when this was referred to the Council, it would be possible for every member of the Council to be furnished with details in order that they might themselves arrive at an independent view of the matter. Although he was quite aware from what Sir Aston Webb had said that there might be some difficulty in publishing the whole of the evidence, it might be left to the discretion of the Council to furnish every member with a summary at least.

THE CHAIRMAN said he should have to consult the Council. He had no doubt that the Council, when drafting this scheme as it was to come forward, would submit it to the Institute in order that members might see what was proposed. There was no intention of forcing anything through at the present meeting which was not the general wish of the Institute. It was simply in order to get unity that they were making their suggestions.

Mr. GEORGE HUBBARD, F.S.A. [F.], in seconding the resolution in the form suggested by Sir Aston Webb, said he did so with pleasure, because he had sat on the Committee with Sir Aston through a good many weeks, and they had examined with their colleagues a great number of witnesses. For something like two years the Institute had been like a house divided against itself, and it seemed that at last a time was coming when they should be unanimous and joined together again. The resolution as put by Sir Aston Webb was one which he thought would meet with the approval of the whole body, and he hoped sincerely that it would be unanimously passed.

THE CHAIRMAN, in reply to a member, stated that all details of the ultimate scheme should be brought before the General Body, so that they might have an opportunity of discussing it. This was the initial stage, and they were only seeking authority to deal with it.

Mr. A. H. KERSEY [F.] asked if during the consideration of the matter by the Committee they had considered the advisability of including a clause in the Bill providing for securing the copyright of Architects' drawings and buildings. If not, should he be in order in putting a proposition before the Meeting suggesting that that should be done?

THE CHAIRMAN said the point had not been

considered. The best course would be for Mr. Kersey to send his suggestion to the Council.

Mr. KERSEY said he mentioned the matter because at the present time the question of the ownership of drawings had been referred to the Practice Committee with a view of altering the Scale of Charges. The Committee had discussed the question, and he thought that recommendation might come from the Committee; or he should be pleased to send it in on his own behalf. The Scale of Charges had been referred to the Practice Committee particularly with regard to the question of the ownership of drawings as affected by a recent case, and it was borne in upon them that the shortest way out of the difficulty would be to get statutory power to vest the ownership of the drawings of buildings in the architects, as was the practice on the Continent.

THE CHAIRMAN: Copyright is a big question. We had better deal with that later on.

Mr. KERSEY: After we have got this Bill?

THE CHAIRMAN: If you will make that suggestion to the Council, they will be able to consider whether it is possible to incorporate it in the Bill.

Mr. H. H. STATHAM [F.] pointed out that architectural copyright and ownership of drawings were perfectly distinct questions and stood on a different basis. If the two were linked together, both might be lost.

Mr. H. HARDWICKE LANGSTON [A.] asked what was to be the method of procedure. It was suggested that the Institute should confine itself to attempting to obtain parliamentary recognition for its membership. How was that to be done without bringing a Bill before Parliament?

THE CHAIRMAN: I am not aware that it can be done without bringing in a Bill to Parliament. That is the subject of the second resolution to be moved presently.

Mr. LANGSTON, continuing, said he had an amendment to propose with reference to the proposal on page 3, that after 1906 "the Fellows shall be elected from those who have passed the Associates' examination." He supposed they did not wish to make that a punitive measure, and to exclude those who were elected Associates before the examination was instituted, because that would countermand the resolution passed in June 1904, that they should be elected from the ranks of Associates, as well as from those who had passed the Associates' examination. He wished that put as an amendment to the Report.

THE CHAIRMAN said that was certainly the intention, and he would accept the amendment on behalf of the Council, so that the passage should read: "Those who are Associates, or who shall have passed the Associates' examination."

The resolution was then put from the Chair and carried unanimously in the following form: "That the general principles of the Report and Recommendations of the Registration Committee

dated the 20th March 1906 be adopted, and the details referred to the Council for farther consideration and report to the General Body."

Mr. GEORGE HUBBARD moved the second resolution, with such alterations as the Chairman proposed should be made in consequence of the amended form of the first resolution, viz., "That the Council be requested to take the necessary steps, when the scheme in accordance with the first Resolution has been perfected and approved by the General Body, to apply to His Majesty the King for a Revised or Supplemental Charter embodying the principles of the said Report and Recommendations, and to prepare and present a Bill."

Mr. DOUGLASS MATHEWS: Is not this premature? Ought not we to get the details first? It is quite possible to move this afterwards.

THE CHAIRMAN said he thought it would be desirable to put the resolution, because the Council would then have before them a clear scheme to which they had to give effect. The matter would doubtless be referred to a committee; a complete scheme dealing with the Charter and Draft Bill would be drawn up and submitted to the General Body. If approved, it could then go forward; but it would be much better that the Meeting should give the line of direction now.

Mr. HERACE T. BONNER [J.]: May I add the word "forthwith"?

THE CHAIRMAN: I think you may take it from me that no time will be lost. We are all most desirous to get it off our minds.

Mr. HUBBARD objected to the word "forthwith" going in. This was far too important a question to be in any way rushed. It required, what he was sure it would receive, the serious deliberation of the Council, and he should be sorry to feel that they were unduly pressing it upon them.

Mr. MAURICE B. ADAMS [F.] seconded the resolution. It appeared to him, he said, that it would be very desirable, inasmuch as the proposals which had been agreed upon would take some time to carry into effect, if they could in any way further this educational scheme which was foreshadowed by what occurred to him to constitute the most admirable Report of the Registration Committee. There were so many young men in the country who ought to be, if they could possibly get at them, brought forward in some such way that would enable them to be prepared to take up the advantages they were endeavouring to arrange. It was a deplorable fact that so many pupils went to practitioners who were in no way qualified to undertake the responsibility of training them. He felt very keenly about this question of education, and he had done his best to further it. He entirely agreed with what appeared to be suggested by this reference to a "recognised school." He admitted that the reference was somewhat ambiguous, but to declare that every student should go through a recognised school was rather a tall order. Still he felt sure that that was the proper

course for them to adopt. Mr. Middleton had alluded to the difficulty of young men in some of the smaller towns becoming qualified architects. He thought, however, that they must accept that difficulty. When men wished to be surgeons or lawyers they had to get out of their little towns and attend colleges or walk the hospitals. He wanted the Institute in some way to foreshadow to the public a definite method by which better training could be had even if for the present they could not organise these recognised schools throughout the country (as he hoped they might be able to do, following what had been done in Tufton Street and in Liverpool, and in other large centres). The Education Committee might in some way bring about a reformation in this regard, which would be an advantage. Young men sometimes wanting positions as improvers had been wasting their time in a most deplorable way in some little place, or with some little man. It was a very serious question, and one which they ought to face if they possibly could. He thought Sir Aston Webb's proposal a most admirable one.

Mr. C. H. BLODIE [F.] said that as the Meeting had been asked to give a direction to the Council he would suggest that an alteration of title was certainly desirable. It might take the form of leaving out one, if not two, of the letters affixed to their names: to have to interpret to a client the meaning of the present letters took up a great deal too much time.

No further observations being offered, the resolution was put from the Chair and carried unanimously.

THE CHAIRMAN said he should like to express on behalf of the Registration Committee their gratitude to the Meeting for the kindly way in which they had received their Report. All the criticisms given were valuable and would be carefully considered by the Council. It had been the greatest pleasure to him to have occupied the Chair at a unanimous Meeting on so thorny a subject.

Mr. G. H. FELLOWES PRYNNE [F.] said he thought a most hearty vote of thanks ought to be proposed to the Sub-Committee, who had gone into this matter so thoroughly. That the work had been thorough and well done was shown by their having brought before a Meeting of this kind a document which could be carried, as it had been, unanimously at that meeting. In reading it one could see that the amount of trouble and thought involved in it had been very great. It was evident that the so-called registrationists must have really tried their utmost to come into line, as indeed had those who opposed registration, as to make a happy ground on which the General Body might meet. He considered that this was one of the happiest nights of the Institute. The proposals had been brought before them and passed unanimously in this way, and they ought to pass a most hearty vote of thanks to the Sub-Committee who had taken so much trouble and pains, and who had brought about such a good result.

Mr. MIDDLETON seconded the resolution, and it was carried by acclamation.

THE CHAIRMAN said that, as a member of the Sub-Committee, he thanked the Meeting very heartily, and he was sure that the vote which had been passed would be deeply appreciated by his colleagues.

EXAMINATION AND DIPLOMA.

Having hoped to say a few words at the Special Meeting called to receive the Report of the Registration Committee, but finding it impossible to put off important engagements made before the meeting was arranged for, I take occasion to make a brief contribution to the JOURNAL upon a question of such momentous interest to the future of architects and architecture.

It seems an inevitable preface to express gratification that a middle path has been found along which those who seemed the most divergent opponents are able to walk arm in arm, and along which I look forward to hearing they walked last night. And whatever points have been given away by one side or the other, the purchase of unanimity and peace was indeed worth much sacrifice.

There can be no doubt that the evidence taken presented features of great interest, and was of great advantage in assisting the Committee to reach its conclusion. It is no breach of privilege to refer specially to one point upon which both sides were apparently agreed, and that is the abstract value of examination as a test of efficiency for those entering the profession.

Herein it seemed to me that we, as a profession, are, in idea, if not in actual fact, marching behind the times; and I desire specially to emphasise the point that we have assumed the cloak of examination and tied it tightly round us just at the time when older associations, having learnt its inadequacy, if not futility, by lengthened experience, are endeavouring to throw it off.

The chief argument which has been adduced over and over again in favour of compulsory registration is that it will, through the medium of examination, secure efficient education. Now I believe that there never was a greater fallacy, and that the advocates of such a test are blind to what true education is or means. I happen to have before me the quite recent Report of the Syndicate upon the Study of Greek at Cambridge, and can illustrate my point from it. The Syndicate express the belief that, for the surer attainment of improving the education of candidates, reliance should not be placed upon examinations alone. They are therefore prepared to propose that cognisance should also be taken of the instruction received by candidates.

Coming from Cambridge, where, if anywhere, examination can be justified as running *pari passu* with education, this is overwhelming testimony

against examination conducted as it has been in recent years by the Institute, and as it would be under the scheme of registration proposed.

If further instance were wanted, one might cite the Queen's Colleges of Ireland, examining bodies created when the craze for the examination system was at its zenith, and which have failed miserably of their object—the advancement of education—certainly not for any reasons connected with the Irish character.

And if this be true—and it is true—of examination as concerned with the general education of youth, to test which examination is applicable, if applicable at all, how much more is it true in relation to a test of competency in a combined art and science like architecture, wherein the personal equation, the gift of imagination, the actual handling and combination of materials and structures, skill in which no lecture-room can supply, play collectively so important a part!

Architecture, indeed, is not a question of paper. It is not even a question of draughtsmanship. It may remain even splendid when both these are entirely eliminated.

I have consistently refrained from taking part in the examination system of the Institute for reasons which time seems more and more to justify and strengthen. I am convinced—and I believe others who will think the matter out will reach the same conclusion—that the whole registration *imbroglio* is one of the offshoots of the examination system. The success of registration, as proposed, would have perpetuated this fallacious system with results too depressing to contemplate.

The great achievement of the Committee's solution is that, in introducing as an integral part of the settlement the new education scheme of the Institute, it has at once hatched a College of Architecture, and brought to a close the period of abstract examination and the delusions which it has fostered. One of these delusions is that a diploma of any kind, obtained other than as a reward for work done, is an aid to the practice of art.

The only influence in furthering any art must always and can only consist in single-minded effort and aspiration towards a high ideal on the part of the individual artist. A long way after this, no doubt, comes the association of such artists together with the same high aim in view. But association for merely professional and protective purposes can only have an adverse influence upon the art of the day.

It seems, indeed, inconceivable that imaginative art can be supposed to flourish which seeks to regulate itself by the external protection of a diploma obtained before it may be practised. However fitted to manual trades or exact sciences—to plumbers, engineers, builders, doctors, or lawyers—no such diploma can be a test of imagination or artistic competence. To fetter architecture thus is to throw dust in the eyes of

the public, to give a spurious hall-mark to mediocrity, and even to incompetence. The effect of a diploma, in fact, defeats itself irrevocably; and this is a point of vast importance which was only once hinted at in the evidence. A compulsory examination, which can have none too high a definite standard, does not serve to weed out. The outcome is precisely the contrary. It serves to tempt in—in large numbers—those who, if an examination did not exist, would never have dreamt of entering the profession at all, have no real call towards it, and only do so because the existence of a diploma suggests a means of livelihood. The inevitable consequence is a great increase of competition by the introduction of a flood of crammed incompetence, and a necessary lowering of the general average of production. Nothing, indeed, can be more seriously dangerous, especially in the condition of architecture at present in England in its relation to the public taste, or lack of it, than the recognition of an acquired status created by examination and diploma.

These are a few thoughts which I did not find expressed in the evidence taken by the Committee. They are but a few of the many which must strike one forcibly in considering what is so wide a question. I do not here attempt to deal with the many other issues which were raised—and not the least of them one to which I am fully alive, the difficulties of status and so forth, which seem more actively to beset our provincial members.

But of this I am assured, that all our difficulties are to be conquered, not by legislative interference, or by putting the profession in leading-strings, but in the realisation of honourable effort by honourable performance.

PARIS: 4th April 1906.

W. D. CARÖR.

REGISTRATION COMMITTEE'S REPORT AND ARCHITECTURAL EDUCATION.

To the Editor of the R.I.B.A. JOURNAL,—

SIR,—On the intervention of the Chairman at Monday's meeting I immediately gave way because I fully appreciated his technical accuracy on a point of order, seeing that my endeavour to urge the pressing necessity of facilitating the establishment of "a definite course of architectural education in recognised schools" throughout the kingdom did not directly arise in connection with the second resolution embodied in the Registration Committee's Report Paper, and which I had the honour of seconding as amended by the Chairman and proposed on behalf of the Committee by Mr. George Hubbard. I had not, however, reached the allusion to which my remarks were tending, and therefore, with your permission, I should like to add a few words to make my point more clear. Two or three years ago the Institute appointed an important Committee with the object

of dealing with the Education question. On the 29th February last year Mr. Reginald Blomfield read an extremely valuable and suggestive Paper at Conduit Street on this subject, dealing with the general conclusions arrived at by the Board of Education, and Sir Arthur Rücker, Principal of the University of London, warmly supplemented the proposals then advocated. I ventured to remark, during the discussion which followed, that during my whole connection with the Institute things in my opinion had never appeared to be so hopeful as they did then, when men like Mr. T. G. Jackson and Mr. Reginald Blomfield had united with the Institute in its endeavour to improve the educational status of the craft of the architect. Since that "memorable occasion," as I then termed it, several eminent architects, in consequence of this determination of the Institute with regard to education, have been induced to become Fellows, thus strengthening the whole position.

The Report which we unanimously agreed to in principle at Monday's meeting forecasts an intermediate stage in the procedure of its operation prior to the application to Parliament for a statutory qualification for architects, giving time during which the advantages of a more efficient plan of architectural education may be developed. I for one consider such a method of procedure to be of the utmost importance; and it was that primarily which I intended to further when speaking in support of Monday's resolution. I wanted to insist, however, that in the meantime the Board of Architectural Education should do something further of a practical nature to establish more centres for this "definite course of architectural training in recognised schools."

Obviously, it must take a considerable period to carry out the project as drafted by the Registration Committee, and now referred to the Council of the Institute to amend and report to the General Body. Several highly contentious points still remain to be settled. This necessarily implies delay. If nothing meanwhile be done to improve the existing inadequate means of training throughout the country, the already large class of more or less incompetent men, who presumably will have to be recognised later on as "Licentiates," will by the very nature of things be vastly increased.

Surely it is imperative that the Education Committee should produce some tangible plan for immediate adoption. I rely far more on the influence of educational development for the advancement of architecture than any possible plan of Parliamentary Registration; and while we are waiting, the unsupplemented and defective system of casual pupilage is going on with alarming results. Other nations are not standing still, and already some of our more important buildings in London are being carried out by French architects practising in Paris.—Yours, &c.,

MAURICE B. ADAMS.

Reinforced Concrete Committee.

Appointments to the offices of Chairman, Vice-Chairmen, and Hon. Secretary of this Committee, the constitution of which was given in the last number of the JOURNAL, have been made as follows:—*Chairman*, Sir Henry Tanner; *Vice-Chairmen*, Professor W. C. Unwin and Colonel C. B. Mayne; *Hon. Secretary*, H. D. Searles-Wood. The "Mr. W. Cookrill," given among the members of the Committee at page 271, is Mr. J. W. Cookrill, Borough Surveyor and Architect to the Great Yarmouth Town Council.

Leaded Spires.

From Mr. FRANCIS BOND, M.A. [H.A.],—

In his valuable paper on "Leaded Spires" in the last issue of the JOURNAL Mr. Lawrence Weaver criticises my classification of Timber Spires in *Gothic Architecture of England*, p. 619. As a matter of fact, knowing the eccentric designs of many timber spires, especially those covered with shingles, I did not classify them at all. The list quoted by Mr. Weaver as spires of what he calls the "collar-type" were instanced by me merely as specimens of timber spires *without windows*. The list unfortunately occurs in the middle of a paragraph relating to spires of the collar-type, and that not unnaturally misled my critic. I shall take the opportunity of the forthcoming reprint of the book to make this clear, and at the same time I hope to adopt Mr. Weaver's classification of timber spires covered with lead, with which I am quite in agreement.

MINUTES. XI.

At the Eleventh General Meeting (Ordinary) of the Session 1905-06, held Monday, 2nd April 1906, at 8 p.m.—Present: Mr. Leonard Stokes, *Vice-President*, in the Chair, 34 Fellows (including 10 members of the Council), 38 Associates (including 2 members of the Council), 2 Hon. Associates, and several visitors: the Minutes of the meeting held Monday, 19th March 1906 [p. 275], were taken as read and signed as correct.

The following Associates attending for the first time since their election were formally admitted by the Chairman and signed the Register:—Albert Edward Bullock, Egbert Augustine Crooke, Alfred James Peyto, Leslie Thomas Moore, Albert Carr Nolley.

Papers on Wood-carving having been read by Messrs. W. Aumonier and A. W. Martyn, a discussion ensued, and a vote of thanks was passed to the authors by acclamation.

The proceedings then closed, and the Meeting separated at 10 p.m.

SPECIAL GENERAL MEETING.

At a Special General Meeting summoned by the Council under By-law 60, and held Tuesday, 3rd April 1906, at 8 p.m.—Present: Mr. Edwin T. Hall, *Vice-President*, in the Chair, 37 Fellows (including 20 members of the Council) and 52 Associates (including 3 members of the

Council), the objects of the Meeting as set out in the Notice-paper were read as follows:—

"To receive formally the Draft Registration Bill printed in the JOURNAL of the 22nd July 1905, and the accompanying Report and Recommendations of the Registration Committee adopted at a Meeting on the 20th March 1906, when it was resolved to recommend the Royal Institute to adopt the Scheme outlined in the Report instead of the Draft Registration Bill already published.

"The following Resolutions to be proposed from the Chair:—

"1. That the Report and Recommendations of the Registration Committee dated 20th March 1906 be adopted.

"2. That the Council be requested to take the necessary steps forthwith to apply to His Majesty the King for a Revised or Supplemental Charter embodying the said Report and Recommendations, and also as soon as possible to prepare and present a Bill to Parliament to give effect to the same."

The Chairman formally laid on the table the draft Bill for the Enrolment of Architects [JOURNAL 22nd July 1905], together with the Report of the Registration Committee and the Appendix and Memorandum relating thereto (see pp. 301-04), and, having briefly reviewed the work of the Registration Committee since its formation in January 1904, and given details of the proposals contained in the Report, moved the first Resolution in the terms set out above.

The Resolution, supported by Sir Aston Webb, R.A. [F.], seconded by Mr. J. S. Gibson [F.], was discussed.

Mr. G. A. T. Middleton [A.] proposing to move an amendment of which he had previously given notice—viz., "That this Institute, having considered the Report of the Registration Committee, and the Appendix and Memorandum attached thereto, is in favour of the general principle of the statutory qualification of architects"—the Chairman ruled that the proposition was not in the nature of an amendment, and must be brought up afterwards as a separate Resolution if Mr. Middleton wished to press it.

A modification of the Resolution before the Meeting, proposed by Sir Aston Webb, R.A. [F.] and seconded by Mr. George Hubbard [F.], was accepted by the Chairman, and it was

Resolved, unanimously, That the general principles of the Report and recommendations of the Registration Committee, dated 20th March 1906, be adopted, and the details referred to the Council for further consideration and report to the General Body.

An amendment to the Appendix to the Report suggested by Mr. H. Hardwicke Langston [A.] was accepted by the Chairman on behalf of the Council—viz. under the head of "Charter Revision" (b) Fellows should be elected from "those who are Associates or who shall have passed the Associates' Examination."

The second Resolution, moved by Mr. George Hubbard [F.] with such alteration as the Chairman proposed should be made in consequence of the amended form of the first Resolution, was discussed, and having been seconded by Mr. Maurice B. Adams [F.] it was

Resolved, unanimously, That the Council be requested to take the necessary steps, when the scheme in accordance with the first Resolution is perfected and approved by the General Body, to apply to His Majesty the King for a Revised or Supplemental Charter and to prepare and present a Bill to Parliament.

On the motion of Mr. G. H. Fellows Prynn [F.], seconded by Mr. G. A. T. Middleton [A.], a vote of thanks to the Registration Sub-Committee for their labours in connection with the Registration inquiry and Report was carried by acclamation.

The proceedings closed, and the Meeting separated at 9.35 p.m.



PAISON ORNAMENT, CLARE, SUSSEX.

PLASTER-WORK.

By GEORGE P. BANKART and LAURENCE A. TURNER.

I. By GEORGE P. BANKART.

THE task of condensing so immense a subject into the space of a few moments is, I fear, no light one. Historically, the subject has, on more than one previous occasion in this room, been compressed within the limits of a "Paper." It would seem superfluous to go over the same ground again, and, as I cannot imagine myself able to tell you anything new of the art of the plasterer, and as I would not dare to draw any comparison between the work of one period and that of another, I will ask you to accompany me for a few moments over rather less trodden ground than is perhaps usual for Papers on this subject. We may have time for a little quiet reflection on the teaching to be gleaned from past art, for since Raphael and the great painters of his time considered the material of plaster worthy of their employment, I think we may be safe in claiming for it some form of ethical bearing, at some time in its past usage.

Plaster has so long been looked down upon, and perhaps rightly so, for its modern commonplace vulgarity of treatment that it seems almost incongruous to think of it as a vehicle of art. Any really healthy revival seems only seriously possible by again reverting to the beginnings, by the gleaning of some of that simple impulse which urged the artists of the past to find expression in materials and methods most in sympathy with their own nature, and in the right and full development of these methods.

I think we are apt, sometimes, to lose sight of our function as artists, in the giving of pleasure through material, by skill, by learning, by sympathy, by imagination, and by emotional beauty. For is it not (or should it not be) the same, in all the arts, without reference to the choice of material?

What, then, are some of the abstract points of value to be gathered from a general rumination amongst all the accumulated wealth of the labour of men's hands, in the application and shaping of a kind of mud in, or on, buildings; and what may we rightly take to heart in pursuing, or in attempting to give fresh hope and vitality to modern plaster-work? We are faced with other materials and methods which, I believe, would have been developed differently in the earlier centuries had their use then been known. The coatings and colourings of the walls of buildings in Mesopotamia some 3,500 years B.C., and at Knossos some 1,700 years B.C., speak to us at least of durability, of the preservative power of stucco, of the acceptance (even so far back) of this material for the clothing of rough walls forming the habitations of the

dead and the temples of the living. Antiquity speaks to us very plainly of the suitability of this "stucco" covering for the durable application of pure tempera colouring. The shadow of the first half of the first century A.D. reveals to us remnants of modelled wall and ceiling decoration of a beauty, subtlety, and delicacy never since surpassed or even approached. It speaks to us of the extraordinary decorative instinct of the Greeks and Romans in the combination of extreme simplicity of line and surface, with refinement, and power of execution.

For the plasterer, the lessons to be learned from these fragments of decorative art can never be too plainly noted, or too highly praised. And yet, with all this delicacy and beauty of form, it must be noted also that if the stucco of the Romans did not convey and hold the same amount of shadow as the work of the Italian Renaissance, it was because they had not then discovered the full capacity of the material. They regarded the material merely as a thin covering, rather than as a veneer—and as a covering they decorated it, adding little weight of stuff or shadow, but they gave colour, and gold, and painting instead.



ROMAN STUCCO (FIRST CENTURY A.D.)

The work was such that history tells us of the homage of the greatest painters and sculptors of Italy to these remnants of antiquity. It tells us of their investigation, their admiration, and of their imitation.

This imitation was not the copying of the form, but of the spirit, of the art of the ancient Romans and Greeks. The result was due to the inspiration derived from this work, and to the impetus given by the great pontiffs, the lesser dignitaries of the Church, and the rulers of the principalities of Italy. But the art of the Renaissance flourished under different circumstances from that of the Greek and the Roman, who embodied in the mysteries of the heathen gods their ideas of the philosophic virtues. Not so with the Renaissance. This was no more a part of their age than of ours. Nor is it for us to embody in our art the pageantries of the Italian Renaissance, than it was for them to embody the mystic rites of the early centuries.

All this purpose or *motif* is dead and gone, a thing of the past. But the ages still go on, and we of the twentieth century have our religion, our science, our folklore, our national virtues, our industries and manufactures. We have these at least to embody in our art. We learn, further, from the Renaissance of the great development in the vastness of scale and the minuteness of detail, and in the general use of stucco, of the extreme fineness of its polish, and of its almost general use in combination with gold and with colour. We learn of its equal decorative use on buildings externally as internally. We hear of the formation of academies



HARDWICK HALL, DERBYSHIRE: PORTION OF TEMPERA-COLOURED MODELED FRIeze IN STATE ROOM.

for the teaching of the art at Rome, Florence, Mantua, Venice, and of the spread of the art throughout Western Europe. We have seen how the tradition was instilled into the native assistants in France and England by the fathers of the Italian Renaissance, and how its attempted maintenance developed in each country into an art of national character. We have walked over the course of this development, and observed how the envy of kings and of courtiers enticed the Italian method into Britain, and how climatic influence nipped the foreign growth after each all too brief period of Continental sunshine on the art within our shores.

At the same time we must remember that there was an indigenous art of the plasterer in England. We must not forget that the abandonment and disuse of brick and ornamental



RADIAL TRACERY, TEAR MAWR, CONWAY, N. WALES.

terra cotta, and the great profusion of timber in this country, led to the general erection of timber-framed buildings, and that the voids left between the framings gave the native plasterer his opportunity of filling with hazel "wattles" and plaster dabs, which were treated on the external surface with multitudinous patterns done with the comb, the fan of pointed sticks, or primitively modelled arrangements of plant and stem work.

We have traversed the natural, steady, and slow development of this native ornamentation. We may recollect something of the emigration into this country of the Dutch and French, probably due to some extent to the devastation of the western continent by the ravages of Phillip II. of Spain, followed by the destruction of the Great Armada, and the natural result, renewed prosperity and wealth.

The more classical education of the time was not without its effect on the art of England. The frequent visitations of Queen Elizabeth among her favoured courtiers gave great impetus to the general building of mansions and large houses, for the fit entertainment of Her Majesty and retinue in all parts of the country. These more prosperous and peaceful times led to the development of the sport-loving proclivities of the Englishman, in place of the relaxed martial spirit, and to the addition of large reception-rooms and withdrawing-rooms for the entertainment of guests. With this we get the promotion of the peaceful and domestic arts of embroidery and weaving, in which we may note the similarity of the detail of these, and of the plasterer's art.

We must not forget the result on the plasterer's art of the sweeping changes in the construction of buildings brought about by the wholesale destruction of timber houses in London by the Great Fire of 1666; also the result of Inigo Jones and his contemporary architects' visits to Italy to study the mannerism of Palladian buildings, and the first detailing of everything on paper, of the paralysis of the arts at the time of the Commonwealth, of Charles II.'s encouragement of the Italian builders, of the rebuilding of London by Sir Christopher Wren, whose methods were carried into the provinces;—how palatial buildings became fashionable, and were given to successful campaigners; of the continued visits of architects to Italy, and of the acclamation of new discoveries of the antique.

Each one of these developments had its marked effect upon the art of building and upon the decorative art of the plasterer. From each of these stages we find that the plasterer produced his best work when the particular kind of plaster he used, whether stucco, parge, or plaster of Paris, was worked in its own particular plastery way, and was not forced into simulation of carving in marble, stone, or wood. The success of his art seemed best assured when his material was put to the fullest right use without *abuse*.

A point here occurs to me: Did the Classic or the Renaissance architect consider whether the methods then employed were legitimate or no? I am inclined to suggest the negative, but that they were accepted as the most convenient and durable methods of expression then known. The primary object of the decoration of a ceiling or of a wall, as in, I think, all decoration, was the giving of pleasure to the eye. The construction of the ceiling had undoubtedly its bearing on the design, but once the impression of sufficient support and strength satisfied the artist, he vied in his emulation to obtain the praise of the patron (eager to outshine his rivals);



BROUGHTON CASTLE: PORTION OF MOULDING AND ENRICHED CEILING BIR.

and to do this, while framing his work with due respect to reasonable economy, he thought chiefly of his enrichment, treated in the language of the time, whether it happened to be the courtliness and femininity of the boudoir of Madame de Pompadour, the magnificence of the Court of Louis XV., as in the glass gallery at Versailles, or the pleasure-sport-loving proclivities of the builder of Hardwick Hall.

This point concerning right or mistaken method, whether past or present, has to my mind an important bearing on all workmanship. It must be remembered that we have a method of constructing our modern plaster decoration by casting with fibre and wood, and that this is a method of convenience which has come to stay. The thought often occurs to me, Had the artists of the Italian Renaissance known of the method of casting from moulds of flexible gelatine, would they, or would they not, have developed their art differently from what it is



JURSTON ALDER, YORK: PORTION OF CEILING, SHOWING METHOD OF PART CAST, PART PRESSED, AND PART *à la working*.

now? Would they have constructed the modelling of their enrichment in such easy conformity to the method of reproduction as to give a result more happily expressing the fullest possible mechanical facility with the fullest possible artistic handling, natural to the working of the process, without carrying it to extremes either one way or another? Would they have made this process a great art as they did that process they knew so well, and pursued so easily, but in another and equally interesting manner of decorative expression? I almost fear your censure by suggesting that I think and believe they would probably, as artists, have carried the method to a much greater pitch of perfection than it has yet seen, not so much in the mechanical skill as in suiting their forms more particularly to the advantages of the mechanism. Whether the process itself is right or wrong is another matter: much of our modern construction calls for it, and it has come to stay—at any rate for a time. Unlike the plaster-work of the early centuries which was a mere coating, our process is a casing.

It has been said by some imaginative cynical wit that had the nineteenth-century archi-

tect been entrusted with the designing and making of the human form, he would have omitted the skin altogether and left all the bloody muscles exposed to view! This statement may safely be taken at its value. At the same time we cannot live by mechanism alone. We too often forget that the mechanism of the nineteenth century was not that of the fifteenth and



WILBERFORCE HOUSE, HULL: LATER DAY PLASTER-WORK, SHOWING THE FRENCH INFLUENCE.



ANNABURNHAM HOUSE, LITTLE DEAN'S YARD, WESTMINSTER (BY WESS).

sixteenth centuries. It was then almost an unknown measure. It would be a fatal error to assume that all the decorations of the plasterer of these periods were used purely as such. In the English ceilings bosses and mitre leaves were legitimately applied, at one time, to cover the mechanical imperfections in the joining and mitring of moulded ribs, and not purely as ornaments at first, although their use was maintained long after the mechanical skill was sufficiently perfected to do without them.



NEW RIVER COMPANY'S OFFICES (1623): CEILING OF BOARD ROOM.

It would be an equally fatal error to suppose that the undulating surfaces of ceilings would have been then left had they been more skilful workmen. It does not follow that because the surface of a ceiling bulged or undulated it was altogether due to the negligence of the plasterer. All the crafts were alike in this respect. Joists were then cut and shaped by hand, and unevenly laid, and irregular of surface when lathed over. Walls were irregular also, roughly built, and in the early times the plaster followed suit. Their materials were prepared and mixed as they had been mixed for centuries, according to usage, and in its application they relied very largely on doing the best they could with the freedom of hand, and the judgment of the eye, rather than on the over-exactitude of the rule and the measure. We must give credit at any rate for these men *using plaster in a plastic form*. This at least we learn from inexperienced

men who lived in a rough and unenlightened age, and I believe they may be excused much of their clumsiness in the infancy of their days as plasterers. I do not hold up their imperfections for acclamation. I am quite at one with our friend Mr. Crace, that to mistake such imperfections for virtues would be a Chinese conservatism—and a dry rot to any art.

I am sorry I did not make myself more clear. I merely mentioned certain existing facts regarding old and modern work without advocating imitation of any kind. I spoke in the same spirit of the imperfections of the present day. I claim for plaster at least that respect and technical liberty which are due from the artist to any other material or medium of expression, whether the surface of operation be large or small. I believe each period of the art of the plasterer (if I may use the expression) should be regarded on its own merits in combination with the peculiar circumstances and efficiency (or inefficiency) existing, according to the peculiar materials that it was then most convenient to procure and to manipulate (a most vital point this, then as now), according to the kind of men that handled it and the clime in which they lived and worked, not to mention the masters they had worked with, or under.

If mechanical skill be the plasterer's diploma, then should the twentieth century be able to dim the glories of the Italian Renaissance; but I fear there is something lacking. It is not for me to suggest the remedy. Time alone will work that. But the ceiling! Apart from its practical use of shutting off other parts of a building—and the wall, apart from its enclosing function—why was it decorated? In the old days, as now, its purpose was its usefulness. Its decoration was only permissible, I suppose, by the giving of pleasure to the sense of sight. I do not think anyone is to blame for the stagnation of the last century, but that it is the natural condition of ebb and flow in the tide of men's affairs. I believe that we must go back again to simplicity of line, of form, and of spirit, in the giving of pleasure, with our money's worth.

If this object is unattempted and unaccomplished, or undesired, by the lack of desire or knowledge of the sense of beauty on the part of the people, and of the worker, then the world will be so much the poorer by ignoring, not only the art of the plasterer, but all of the lesser arts.



TYPE OF HERALDIC MODELLING, PLAS MAWR, CORNWALL, N. WALES.

II. DECORATIVE PLASTER CEILINGS. By LAURENCE A. TURNER.

IN considering the subject of plaster-work, it is as well to divide it mentally into two broad divisions—lime plaster and plaster of Paris. These two materials require widely different methods in their use, and produce results that generally render the material used at once apparent. As to which of these materials gives the most satisfactory plastersque result I do not think there can be two opinions.

Lime plaster must take the first place. Ceilings made of lime plaster must be modelled *in situ*, and consequently fewer mistakes are likely to be made in matters of relief, scale, or proportion.

It is not my intention to speak this evening about the history of plaster-work, or to enlarge on the beauties of the fine examples of old lime-plaster ceilings, of which we are fortunate in possessing so many in England. I intend to confine my remarks chiefly to the use of plaster of Paris, to look at the subject from a practical standpoint, and to consider what can be done with plaster of Paris and other materials that we now have, and that were not in use when lime plaster was generally used. The invention of using canvas to strengthen and wood to stiffen plaster casts, introduced into England about fifty years ago, gradually brought about a complete change in the use of plaster of Paris, and made it possible to apply plaster-decoration in ways not contemplated before.

Plaster of Paris is capable of many things; it can bear many characters. It can be simple, honest, and truthful, elaborate, sumptuous, and rich, or it may be hard and deceitful—in fact, the greatest of liars. Plaster of Paris can be made to represent with deceptive accuracy the surface texture of almost any material. For instance, a good cast from a carefully taken squeeze of a piece of old wood carving, with the aid of some colouring matter, may be made so deceptive that a very close inspection is required to determine whether or no it is the original or a cast.

The quality that we should try to reproduce in plaster-work is that which is to be found in the Elizabethan and Jacobean lime-plaster ceilings. These Elizabethan and Jacobean ceilings are, I think, the best models and standard of work to set before us. Most people agree that this is the period in which the best and finest examples of plaster-work are to be found. Most of them, if not all, are made of lime plaster; but there is no reason why the same effect may not be produced with plaster of Paris.

What are the qualities, then, that are to be found in this charming old work which make it so beautiful and interesting? And what is it that often makes modern plaster-work so uninteresting, even if it is not ugly?

The chief quality that goes to make old plaster-work so charming is the exceedingly soft, delicate, and subtle play of light and shade that is produced on its modelled surfaces. In modern work it is the hardness of line and sharpness of shadow, the dead flatness of the unornamental surface, that make it so dreadfully dull.

The most satisfactory results in any plaster-decoration that we possess are those in which there is no undercutting except in detached ornaments. Therefore I think it is necessary, in modelling a ceiling, to avoid all undercutting, hard edges, and rigidity of line. Court everything that is the reverse of these qualities—softness, rounded contours, soft shadows, breadth of surface, and extreme modulation of line and surface.

The appalling Gothic ceilings that were made in the early part of Queen Victoria's reign

generally possessed all the bad qualities which it is most desirable to avoid. They have great, projecting, narrow ribs, so strong that you cannot see more than one side of them at a time, and beads that are three-quarters of a circle in section. They are all run as true and sharp as a metal template and straight-edge can make them, leaving no interest in their execution, but giving a feeling that they have been turned out by a machine, or cast from moulds made by steel-faced planes.

Plaster-work worthy of the name must have the quality of softness; it must make you feel that it has been modelled. Every atom of it should be modelled. There should be a subtle play of light and shade all over it; the plain spaces as well as the mouldings and foliage should be alive with delicate modelling, and not dead and cold like those Early Victorian ceilings I have just referred to.

I do not wish to imply that all strongly undercut plaster-decoration is to be avoided, such as is to be found in Wren's work, but I do assert that it does not possess the interesting quality peculiar to the plaster-work of the Elizabethan and Jacobean period, and which is peculiar to plaster and can be found in no other material, though there is a great analogy between it and the finest decorative cast-lead work.

What I want to concern myself about to-night is how to produce with the many new methods and materials discovered since that Utopian period for plasterers, between 1400 and 1600, a fine, satisfactory, decorative result at a reasonable cost. To make a ceiling nowadays in lime plaster, using only the methods (so far as we know them, and I do not think we know



CEILING AT "WESTBROOK," GOSHALMING.

much about them) that those old people used, it is useless to imagine that anything can be done that is not very costly. Besides, the difficulty of obtaining the properly slaked lime renders it almost impossible to model the plaster with your fingers. Tradition says that twenty years was not an out-of-the-way time for the lime to be slaked before use. A friend of mine told me that, when travelling in Northern Italy last summer, he came across one or two villages in which it was the custom for each cottage to have a small pit in the garden for slaking lime, and that ten to twenty years was about the time they considered it should be slaked. The villagers used the lime in decorating the exteriors and interiors of their houses, giving great interest and individuality to the village street. The working quality of lime as old as that is a very different thing from lime that has only been slaked for three months, and here in England that is considered to be a long time. Lime that has been slaked for years works like butter, or, as it is technically termed, "fat." Of course, apart from that, newly slaked lime would not be possible to model with the naked fingers, for that portion of one's birthday suit would soon be destroyed.

If well-slaked lime is not procurable, the best substitute for it is, I think, Keen's cement. I have modelled one or two ceilings *in situ* in which Keen's cement has taken the place of lime, but I have always mixed silver sand and size with it, the latter to prevent the cement from setting too quickly. But I confess I do not personally incline to the method of modelling in plaster *in situ*; I think the advantages are to be outweighed by the disadvantages; it is of course a great boon to be able to see the effect of your work as you proceed, but until



CEILING AT "WESTBROOK," GODALMING.

the scaffolding is removed even this is not wholly possible, for the variableness of the lighting partially obstructed by some of the scaffolding is very deceptive.

Again, in order to get the plaster to adhere to the ceiling, it is necessary to slam it up, probably putting on much more than you want, which has to be carved off again with steel tools. It is hardly right to call it modelling—it is carving—though no doubt after the carving process has been done a certain amount of finger-work can follow. This is my experience, but I do not profess to be an adept at this method of production. I much prefer to model the ceiling on the bench, in Keen's cement and sand, and to use my fingers only. The bench must be non-absorbent. By modelling the work on a bench the difficulty of getting the cement to adhere to the ground is avoided. After each little bit of ornament is roughly suggested in cement, it is best to keep dipping one's fingers into water whilst modelling and finishing it, and it will be found that a very good texture and a soft plastersque result can be obtained. When the model is finished a mould of plaster or gelatine is made from it, and the work cast in fibrous plaster. If there is a doubt about the amount of relief required, it is easy to offer up a cast *in situ*, and there is the advantage of being able to repeat the pattern instead of having to model the whole ceiling. Another advantage is that, by using sand with the cement, you can, by using a coarser sand and more of it, prevent the work from becoming too small in detail or too elaborate in finish, for the material will not allow of it.

With apologies I here show you a photograph of a ceiling [pp. 328, 329] I have done lately in the method I have just described, in which the detail had to be extremely simple to harmonise with the panelling and cornice that already existed, in the drawing-room at "Westbrook," Godalming.

For ceilings where the pattern will allow, the fibrous plaster casts should be made as large as possible. These are screwed to the wooden joists, or, if it is a concrete ceiling, to battens that have been bolted up to it. If the ceiling is of coke-breeze the casts can be nailed directly on to it.

Another advantage of fibrous plaster over lime is that the ceiling is three or four times lighter, and will not crack or fall, as the lime plaster on laths sometimes does. I have never known a fibrous plaster ceiling to fall, or show any signs of doing so. I admit that in some patterns of ceilings there is a difficulty in hiding the jointing of the casts, but this is a technical trouble that can as a rule be overcome. I do not, however, think that any hard and fast rule can be laid down about the way in which ceilings should be made; each design calls for its own particular method of modelling, casting, and fixing. For instance, a ribbed ceiling, such as I here show you [p. 331], I should do in quite a different way.

This ceiling, which was fixed in the drawing-room at Powis Castle under the direction of Mr. G. F. Bodley, R.A., was made in this wise. A modelled ground was made in clay which was transferred into plaster; next, the moulded rib was run in clay and a plaster mould made from it; into the plaster mould clay was pressed and struck off level, carefully taken out of the mould, and laid in position on the modelled ground. The rib, being of clay, will follow the unevennesses of the modelled ground on which it lies, and the amount of handling and pressure it receives from one's fingers to ensure its lying tight to the ground will somewhat throw it out of shape; the modelling required to put this right is just the amount that is helpful in making the mouldings have that quality of vitality which it is so essential to obtain in plaster-work.

The rest of the ornament is treated in the same way, the enrichments being modelled in clay, plaster moulds made, and clay impressions taken from them and laid in their respective places, the modelling being slightly varied to add interest to the design. If the curves that the ribs take are very sharp, it will be found that it will distort the straight clay mouldings

too much to bend them to it; so it will be necessary to run one to the curve and make a mould for it; but where it is possible to do so, a straight clay moulding bent to a curve will give a much more satisfactory line than one that is run to that curve. A panelled ceiling of this type requires some experience and a good deal of judgment in deciding at the outset how to put it together, in what sized pieces it should be cast, and how the jointing should be concealed. Practice soon makes one decide this, as a rule, easily. It is important to make one's decision carefully, as very much depends upon the method arranged for the jointing as to what the cost of fixing will be.



DRAWING-ROOM, POWER CASTLE.

In jointing these cast ceilings it is necessary that the ribs should cover the joints, which are what are technically known as lap joints—that is to say, half the width of the moulding covers the ground of the adjoining cast, and the joint is wiped off with wet plaster when the whole of the casts have been screwed into position. If the jointing of this kind of ceiling is not hidden by lap joints, it is important that the casts when screwed into position should not be fixed too closely together; they should be from three-quarters to an inch apart, leaving room for the plasterer to insert between them strips of canvas soaked in plaster. These are pushed in so that they form a perfect key between each cast when the plaster hardens. There will



THE LONG GALLERY, KNOWLE.

then be no fear of a crack showing, or of the stopping (which is then added to bring the joint to an even surface) falling out.

I am very fond of these ribbed or panelled ceilings; they are eminently suited to fibrous plaster and the method of construction I have just endeavoured to describe. There are many architects and critics who no doubt would say that they are weary of them; but I venture to assert that the reason is that they have not had them produced in such a way that the quality of modelling has been brought out, for their beauty is chiefly dependent upon the modelled effect that they should possess, the ever-varying play of light and shade of a most subtle kind. Very great care must be taken in modelling the plain ground for this type of ceiling, as the richness of effect is chiefly dependent upon it, and it is here that the most marked difference comes in between the good and the bad ceiling.

The practice of using moulded wooden ribs, dividing up a ceiling into panels and painted white to appear like plaster, cannot be too strongly deprecated. It has the result of bringing a ceiling down and making it look heavy, whereas a well-modelled ceiling of plaster does the reverse, making the room look lighter and giving a sense of greater space.

As far as I know, there is no craft that requires more experience in matters of relief and design than that of the plasterer. For instance, the section for a moulding of a ribbed ceiling

seldom looks right if run to the section drawn on paper, it almost invariably requires modification when the rib is produced. It is only by personal labour and experiments, and by careful observation of the results, that one can get a real grip of the requirements necessary to make a successful issue to his labour for each particular ceiling. A vast amount of labour in many modern ceilings is not only often wasted, but is positively detrimental. Provided mouldings are kept soft, and sharp shadows, undercutting, black spots of shadow avoided, and the whole of the work, ground as well as ornament, modelled, then the ceiling cannot be a very bad one.

As I said before, ceilings of Wren's date come under quite another classification, and although most of them are very beautiful, they depend upon their design for their beauty, and not upon that quality which is peculiar to plaster-work. Many ceilings of Wren's date, and later, might equally well, and often better, have been carved in wood or plaster, than modelled.

The Adams ceilings were, I believe, made entirely from carved-wood moulds or carved wooden models. Anyhow, if this was not so, the effect is the same; they are hard and uninteresting, though very refined, and they depend entirely upon their design and not upon modelling for effect. Had they been modelled all over in the way I have been advocating they would have been twice as interesting.

To make a ceiling of the type that was done in Grinling Gibbons's time is an extremely difficult thing to do satisfactorily; it requires the highest skill in the modeller or carver's craft, and when well done is a delightful type of ornament; but it is the carver's craft that has to be chiefly exercised to produce it, and is practically carving reproduced in plaster.



COFFEE-ROOM, STAR HOTEL, FALMOUTH.

With regard to the question as to how far the architect should supply drawings for a ceiling, I do not think anything more than a small-scale drawing indicating the type of work he requires should be given to the modeller; more than that only hampers him, whereas a slight sketch is likely to be very suggestive and stimulating to his ideas. The architect should supervise and criticise the models, but unless the modeller does the details himself I do not think it is likely that a result will follow that has much life or freedom in it.

In planning a design for a ceiling which it is desired to divide up into panels by ribs or bands of ornament, I think it is desirable to get the proportion of straight lines about equally balanced with the curved. For instance, the ceiling of the Long Gallery at Knowle, if I may say so, has the fault of having nothing but curved lines, which I think is particularly restless; whereas the ceiling in the coffee-room of the Star Hotel at Yarmouth is a good instance of well-balanced proportion of curved and straight lines and of breadth of effect.

I fear you will have thought what I have said to be not much worth saying; but I shall be more than content if I have inclined some here to my view of what the quality of plaster-work should be. I hold that if a plasteresque effect is wanted, the whole ceiling should be softly modelled, mouldings as well as ground. If that is not to be, then let it be, frankly, carving produced in plaster.

DISCUSSION OF THE FOREGOING PAPERS.

Mr. EDWIN T. HALL, *Vice-President*, in the Chair.

PROFESSOR BALDWIN BROWN, M.A. [H.A.], who rose at the invitation of the Chairman, said he was very glad to have the opportunity of voicing the feeling of the Meeting in proposing a vote of thanks to the two lecturers, who had brought before them this perennially interesting subject of plaster-work, both in its historical and in its technical aspects. The historical point of view was not dwelt upon so much as had been the case when the subject had been previously discussed at the Institute. The history of plaster-work was very interesting, because the most ancient nations were perfectly familiar with the material, and used it in the utilitarian sense with the most perfect knowledge and skill, although neither the Babylonians, nor the Egyptians, nor the historical Greeks apparently realised its artistic possibilities. The prehistorical Greeks, however, as was evident from the remains of modelled plaster-work found at Knossos, had some idea of its artistic value. The Greeks used terra-cotta where we should use plaster in decorative work such as had been brought before the Meeting that evening. The first existing example of this fine plaster-work was that discovered at Rome near the Villa Farnesina, and that might date somewhere near the Christian era. There must be a history behind it, for Vitruvius, who wrote before that time, was familiar with the processes of plaster-work, which to him were Greek processes. There was no doubt that the work had been elaborated at Alexandria, like

so many other technical processes in building and decoration that came into vogue afterwards at Rome and were called Imperial Roman, though they really were late Greek, adapted and imitated under the Roman Empire. The subjects of the modelled panels in the work at the Villa Farnesina were curiously like certain sculptured reliefs which were known to be Alexandrian. There was no question that that work came from Alexandria. As a matter of fact, wall paintings had been found in connection with these plaster ceilings near the Villa Farnesina representing Egyptian or Alexandrian subjects, and this, he thought, proved the case. It was really only a late Greek development. As one saw it, both in the Villa Farnesina work and in the tombs of the Via Latina, it hardly seemed to come up to the ideal Mr. Turner had put before them in his concluding remarks—an ideal with which he (the speaker) thoroughly agreed—that there should be the same quality of handling over the whole of the ceiling, both the figured parts, which were necessarily modelled, and also the mouldings, which might be cast from moulds. In ancient work, he believed, the ornaments were cast from moulds. There seemed to be a little incongruity in that work from the Villa Farnesina: the mouldings were rather too obviously cast work, whereas the beautiful figured designs Mr. Bankart had thrown on the screen were modelled with extraordinary freedom by hand. There was a gap in the history

of plaster-work which he thought might be filled up. It reappeared again in the sixteenth century as a consequence of the discovery of so many Roman buildings at that period which were decorated in this fashion, and the work was reproduced by Morto da Feltre and others, who were so famous in connection with this work. There was not a break in the history of modelled plaster-work between the Classical and Renaissance periods. There existed extremely bold and fine examples of Mediæval plaster-work belonging to the Mediæval period proper. The finest he knew was at Cividale, in the extreme north-eastern corner of Italy, where in an old chapel there was some extraordinarily fine and bold modelled plaster-work, consisting of figures in very high relief, almost in the round, about two-thirds life size, and a boldly modelled conventional vine on an archivolt, which was almost worth a pilgrimage to that somewhat distant corner of Italy. That might date from about the year 1100 (although some spoke of it as work of the seventh or eighth century) which was about the same period as that very interesting stucco screen in the Church of St. Michael at Hildesheim, of which there must be a cast at South Kensington, with figures about two-thirds life size modelled in high relief with considerable spirit, and conventional foliage work. That must date about the same period—viz. 1100. Then there were the model plaster figures on the ciborium at St. Ambrogio, at Milan, belonging to about that period. He mentioned these examples of Mediæval plaster-work to show that the work was alive during the Middle Ages, and that it was not merely a re-creation of the period of the Renaissance. A receipt was mentioned by Vasari for preventing plaster drying too rapidly when it had to be manipulated—viz. the mixing of rye meal with the plaster—baked meal Vasari called it. In some references to the plaster-work at Nonsuch, in England, done by Italians, rye meal was also spoken of as being mixed with the plaster. The late Mr. Robinson, who had a well-known connection with plaster-work, said that he tried that material and found it to work very well, the plaster remaining plastic for a long time in the fingers, and when it dried he said it gave a very fine ivory tone. He should like to ask whether Mr. Turner or Mr. Bankart had tried it. He was glad to hear lime plaster advocated as being, after all, a finer material than the sulphate of lime, or, as it was called, plaster of Paris. There was one use of lime plaster about which he should like to say a word. The earliest, and he thought the most interesting, account we have of plaster-work—viz. that in Vitruvius—showed that the finish of the plaster was of two kinds: it might be finished simply as plaster, telling by the beauty of texture of the material, which was made with pounded marble mixed with lime carefully prepared. Vitruvius spoke of this plaster being macerated; he spoke of men with

macerating rods carefully macerating and beating the plaster for a considerable length of time. He (the speaker) did not know what effect that continual maceration of the material was supposed to bring about technically, but at any rate the material was of such excellent quality, and was brought to so fine and even a surface, that it could reflect faces as in a mirror, and it would tell from the beauty of the texture of the material itself without any additional treatment. Then there was another way of finishing it by applying, immediately the plaster was finished and before it was allowed to dry, a coat of pigment mixed with water, the whole thing drying together, the result being what is called the fresco process. We all of us spent the greater part of our lives in rooms with plaster walls, and those walls when they were plastered were allowed to dry, and then the plaster was treated in, roughly speaking, one of three ways: it was either papered, or it was oil-painted, or distempered, and none of those three ways was really a satisfactory way of finishing the plaster; in each case a coating of additional material, hiding the material underneath, was put on. Neither the paper nor the oil paint could be properly cleaned, and the distemper could not be cleaned at all; and two or three processes, such as sizing, or two or three coats of paint, were required. Supposing, however, that as soon as the plaster was ready a coat of simple colour mixed with water was laid evenly over it, the whole thing would dry, and according to the chemical process with which everyone was familiar the colour would be incorporated with, or rather crystallised upon, the plaster, and would remain a permanent finish to the thing; so that one had the quality of the plaster and at the same time an effect of colour. Everyone would agree that there was no colour surface so pleasing to the eye as that produced by the fresco process: it was far better than distemper or oil paint. As a practical point he should like to ask whether it was possible to mix plaster without going in for elaborate processes and mixing it with pounded marble dust. Could lime plaster be mixed in such a way that a coat of paint could be applied immediately, so that all would dry together, and the wall be coloured *a fresco*, as the Italians said? It was much the cheapest and much the directest way, as well as the most beautiful way of colouring the surface of a plaster wall. People got frightened of fresco painting because a great deal of fuss was made about it on the occasion of some walls of the Houses of Parliament being painted in fresco. Of course to paint a picture in fresco was a very different thing from colouring the surface of the plaster; but colouring the surface of the plaster was evidently what Vitruvius had in his mind, and it was the most direct and most pleasing way in which a plaster wall could be coloured. He hoped when the Institute got its new building some of these experiments

would be tried. Let them see whether they could not finish their plaster in this direct and artistic fashion, and restore the old process which was so perfectly familiar in the olden times.

Mr. W. H. ATKIN BERRY [F.] in seconding the vote of thanks said that after the most able and comprehensive remarks of Professor Baldwin Brown he would not venture to add anything by way of discussion, but only to confirm the thanks expressed to the readers of the Papers, and to Mr. Bankart for the exceedingly interesting display of photographs and lantern slides with which he had accompanied his Paper.

THE CHAIRMAN, in putting the vote, said they had had two most interesting Papers on a subject that had great fascination for every architect—for everyone indeed who lived in a room. The historical sketch given by Mr. Bankart was exceedingly interesting. Among other things he had referred to the remarkable plaster-work in King Minos's Temple at Knossos. They must all have been struck by the views presented to them by Dr. Evans, the excavator of Knossos, some three or four years ago in that room, where they saw the wonderful frescoes which were interesting in themselves as examples of plaster-work, and also in representing a civilisation of which they had practically no knowledge until the buildings were brought to light by the excavators. Professor Baldwin Brown, with that great interest which he always showed in anything connected with the Institute, had given them a very capable description of the various historical adaptations and applications of plaster, and had told them how there had been no cessation of this great art, but that it had passed on through the centuries until its great development that was almost a rebirth during the sixteenth century. Of course, as in the case of all the great arts, it had never been absolutely lost; it had cropped up in the most unexpected corners, but their attention had only been drawn to it when some exceptional display of it had been produced as during the period of the Renaissance. Professor Baldwin Brown had suggested that in the building which the Institute was to put up we should make experiments. He was not quite sure, however, that experiments were very desirable things when they were building their own home, because if they were failures the public would probably think they were failures from their inexperience and ignorance of the processes they were employing, and that might not be desirable. With regard to fresco work and the treatment of plaster when it was wet, one of the great difficulties that faced them was that they were so limited in the shades of colour. One could use such colours as yellows and reds, but not greens and blues, for those colours fly in the most painful way; therefore a very limited field was available for dealing with the wet material. He himself had tried what Pro-

fessor Baldwin Brown was now suggesting, and often the client had been dissatisfied with the result, because he had endeavoured to get some shades which were a little less common than the yellows and the reds. They were all deeply grateful to Mr. Bankart for the interesting series of photographs displayed on the walls. They had before them a wonderful collection of every kind of plaster-work, and of every period. The slides shown on the screen were exceedingly charming and interesting. They recognised in some of them the examples upon which the brothers Adam and others of their period had based their work. Those who practised in plaster-work would be delighted to have the opportunity of inspecting the work of the past, which would suggest to them new departures and fire them with the idea of attaining as beautiful results in their own work.

Mr. G. P. BANKART, in reply, referring to Professor Baldwin Brown's allusion to the wooden moulds, said that, without doubt, in the building discovered near the Villa Farnesina and in other examples left to them the mouldings and the more mechanical bands dividing the panels were cast from moulds of some kind—in all probability moulds of wood. The absence of repetition in the panels themselves, however, seemed to suggest that they were modelled *in situ*, and the incised lines in the work seemed clearly to indicate that it was entirely the work of a free hand. As regards mediæval plaster-work, Viollet-le-Duc mentioned some work in France of the Carolingian period—A.D. 752 to 986—at Germigny-des-Près (Loiret), also at S. Rémi of Reims, S. Laurent of Grenoble, and at Issoire—which were also modelled in stucco, practically speaking from the receipt given by Vitruvius, and he mentioned it in rather an interesting way. He could not remember the exact quotation, but he said that the work was extremely slight, and was merely employed to soften the bareness of the walls by the delicate application of ornaments, trellis, and flowered chequer work on even surfaces. There was not the slightest doubt that this work was going on during the mediæval age in Italy, France, and Spain. Other ingredients were used with stucco to harden, toughen, and to regulate the setting properties—for instance, such ingredients as hog's-lard, blood, common beer, and the juice of figs were used to retard the setting. Vitruvius mentioned that the slaking of the lime for a very long period was done chiefly to break up any fine particles of the limestone that did not happen to come into contact with the air, and so get thoroughly slaked; also it acted in a toughening way; the old stucco was extremely tough, and was turned over, and over, and over again, and thumped up (Vitruvius told them) with very heavy hammers and hatchets. As regards the colouring of plaster-work, he believed that nearly all the old stucco plaster-work, that they knew to be coloured in "*fresco*," was done with

pure tempera colouring, that is to say, with yolk of egg medium. He had employed tempera colouring on plaster of Paris modelled groundwork, in combination with pastel, and had procured, not only satisfactory results, but believed that this means of colouring was the only right and permanent one for the surface treatment of coloured (gypsum) plaster decoration. In Mr. Heywood Sumner's interesting Paper, delivered before the Society of Arts 10th February 1891, a very interesting account was given of how colouring matter was used, how it was mixed with liquid plaster, and how he (Mr. Sumner) himself employed different colours, mostly yellows and reds, the earth colours, and how extremely cautious one had to be with the use of blue. He believed he mentioned one blue (lime blue) only, which it was possible to use—a mineral colouring of some kind. The particulars were all given in Mr. Sumner's Paper.

MR. LAURENCE A. TURNER said he hoped Mr. Bankart would have told them a little more about the way the old work was done. It would be exceedingly interesting if they had a pamphlet written by some authority on the subject telling them exactly how the old ceilings of lime plaster were made. For himself he did not believe, as far as he had heard and read, that the methods they were said to have used were altogether those actually employed. He thought they had other means. How was it possible that, if such things as the pattern on the circumference of wheels were used, they had not a single example remaining of these old tools? Surely there were hundreds of them in use not so many years ago if that were true; yet they had not a single one left. He had hoped to have heard a little more from Mr. Bankart; he (the speaker) had been open in telling them how he did his work; and he was hoping that Mr. Bankart would tell them how he did his! As regards drying the surface of the plaster, one thing he had done to plaster ceilings after they had been fixed was to

give them a coating of turpentine and beeswax. It thoroughly impregnated the plaster and gave it a good face of a nice ivory tint, and it could be washed afterwards. This was put on in very thin solution; one could not make the mistake of putting too much on, because the plaster soaked up a certain quantity, and more than that it could not take; it merely rested on the surface, and would peel off afterwards. He had also tried in a very small way to colour plaster casts—he was talking now purely of plaster of Paris casts and fibrous plaster. A delightful method of colouring, if it could be done, was by using simply oil colour and turpentine, but one could not remedy a mistake afterwards. If the colours were mixed absolutely correctly first of all, and a single wash of each colour put on, one would get a most delightful result, but not more than one wash could be put on. Directly the plaster had had that one coating of colour, it had soaked up all the colour that it could take up, and would take up no more. A second coat would give an opaque colour, whereas by the first coat is produced the quality that we get of water-colour on a piece of white paper, that is to say, the white paper shows through the colour and gives a quality that cannot be reproduced in any other way. As to the use of meal mixing with the plaster, he had had no experience with that. His experience had been almost entirely with plaster of Paris as a substitute for lime plaster, because lime properly slaked could not be got. He had referred in his Paper to some villages in Northern Italy where the villagers slaked their lime. He was told that the lime was slaked wet in these pits, not dry, and the lime was not sifted, but they merely used the overflow from the pits—that is, the very liquid plaster which was allowed to flow over. The pit was formed in the shape of a pair of blacksmith's bellows; that is to say, a wide pit with a narrow funnel at the end, and as the stuff exuded from the narrow end it went into another pit, and the material in that other pit only was used for the plaster decoration.

THE ILLUSTRATIONS.

The Papers were illustrated by lantern slides and by a large and unique collection of photographs kindly lent by Mr. George P. Bankart and arranged under his direction on the walls of the Meeting-room. The decorative use of plaster was represented, through all its various stages, from the first half of the first century A.D. to the work of the brothers Adam at the end of the eighteenth century. The photographs remained on exhibition during Tuesday and part of Wednesday.



9, CONDUIT STREET, LONDON, W., 28th April 1906.

CHRONICLE.

Joint Reinforced Concrete Committee.*

The following statement, which was read at the first meeting of the Concrete Committee, gives an idea of the nature and scope of the investigations the Committee has been formed to carry out:—

This Committee has been nominated by the Royal Institute of British Architects to consider and report upon the use of reinforced concrete in buildings and other structures. As we all know, reinforced concrete is largely used in other countries—in America, France, Germany, Italy, Russia, Egypt, &c.—and is now coming into use here, but very slowly.

The conservative nature of our people may be responsible for part of our reluctance to use reinforced concrete, but another reason why we lag behind is that no responsible or representative body of skilled men—no one man even whose name carries great weight—has pronounced in its favour. Also Building Acts and By-laws do not facilitate its adoption. The architect and engineer hesitate to use it until the material and what can be done with it has been generally agreed upon; until, in fact, they have some assurance that it may safely be employed.

Now, as the Royal Institute of British Architects has been the promoters of this Committee, you may naturally look to its representatives for some general idea of the line of action to be taken. Exactly what may be done must be settled by the Committee itself; and in submitting to you a general rough sketch idea of a programme, it must be understood that the sketch is necessarily only an introduction, and not in any way a finished scheme, for your guidance.

First, then, it appears that we should inquire into what has been done already, and ask the

owner or architects or engineers of such work for particulars, and how the buildings have stood the test of time.

We shall have a Secretary who can apply to railway companies, owners of mills, private owners, architects, engineers, and others, who will no doubt willingly place the results of their experience at our service. Some of us may visit works; some have actual experience in the new system; and when we have digested this knowledge we can as a body express an opinion as to its usefulness, its safety, its permanence, and other qualities, which opinion we may fairly hope will be of value to our countrymen.

Something of this kind has been done already in other countries. The German Association of Architects and Engineers in conjunction with the Concrete Association have drawn up a report; the American Institute of Civil Engineers in conjunction with various other bodies have appointed a Committee which is at present engaged on similar work, and it is suggested that we should apply for copies of such information or interim reports as may be at its disposal; the French Government also is said to have appointed a Committee to prepare a set of recommendations.

A general expression of opinion as to its value would not help other architects or engineers very much; we should therefore consider and report upon the following amongst other matters, as to which there is doubt:

(1) Whether such constructions are permanent or likely to deteriorate with time. The steel skeleton is said by all those who have studied the subject not to rust, and even when steel is embedded in a material such as coke-breeze concrete containing a proportion of sulphur there is said to be no rusting. As any reduction in the section of the metal by rusting might endanger the work, we should consider if it ever does rust, and under what circumstances, so as to advise upon any necessary precautions, or to reassure the doubters on this head.

(2) The resistance to fire. We shall have to consider what has been done in experimental tests such as those of the City of Hamburg Authorities in 1895, and of the British Fire Prevention Committee just made. Also the results of tests in actual fires in buildings such as the Baltimore fire, where the conditions were exactly those we have to provide against. We may thus be able to form definite conclusions of value to all interested.

(3) The method of contracting. There are about fifty different so-called patent systems, and it is usual to entrust the design of any proposed work to one of the firms who make a speciality of this class of construction, obtaining from that firm a guarantee of strength. This arrangement is probably quite desirable; but as a certain responsibility must always lie on the engineer or architect who accepts or recommends for acceptance any such

* The Committee consists of representatives of the R.I.B.A., the District Surveyors' Association, the Institute of Builders, the Incorporated Association of Municipal and County Engineers, the War Office, and distinguished scientists. The names of officers and members are given at pp. 271 and 316.

design, it is desirable for us to define as best we may the responsibility of the parties.

For instance, it may be made clear that the contracting firm undertakes all responsibility; you may consider it wise to require that the drawings should first be submitted to the architect or engineer, and should be signed by the contracting firm or by some responsible person on their behalf. Some firms try to make a secret of their system, and object to showing the drawings.

It may appear to you that to accept a plan for floor or roof or wall or column or bridge or water-tank (all matters of construction in which we are supposed to be skilled) without making ourselves acquainted with what is to be done is dangerously foolish; and if so, your opinion may have sufficient weight to settle that question. Captious interference we should all deprecate of course, but the engineer or architect must be in command, and must know, not only what is proposed to be done, but how it should be done.

We can still leave ample freedom to the experts in the design of the work, in the choice of material and method of carrying out the work.

(4) The materials also will no doubt be considered: these are—

- (a) The metal, iron or steel;
- (b) The cement.
- (c) The sand.
- (d) The aggregate, ballast or stone &c.

For the steel and the cement we shall have the standard specification of the British Engineering Standards Committee, and must inquire if qualities of the standard kinds are suitable for reinforced concrete work.

As to the sand, you know how universally the qualities of good sand are given as *clean* and *sharp*. We have to review all that in the light of recent knowledge. In America many experiments have been made which show that cleanness is not so all-essential as has been supposed, and that washing does not improve every sand. These results were arrived at by experiments on material not only seven days' or twenty-one days old, but were made on pieces of various ages up to three years.

Certain work in that way is being done here, and when we have collected and considered the facts our opinion based on knowledge should be of value.

Next as to the sharpness. You may find that sharpness is not so important as variety in size of the grains of sand. Compactness and freedom from voids appear to play a most important part in the strength of mortar, and that freedom from voids may best be obtained by variety of size. These questions we should study with an open mind, free from ancient prejudice.

Then there is the aggregate of stone, gravel, coke-breeze, &c., what proportion to use, what material to use to get the best results in given cases. If we find that washing the sand may be saved, and that

concretes of leaner mixture may be used than hitherto with equal safety, we shall have done some good.

Questions arise as to the mixing. We want to know what is the proper way to mix our concrete; how much water to use; whether the sand, gravel, and cement should all be mixed together and the water added, or whether the sand, cement, and water should be made first into mortar and the gravel or stone added, as recommended by some. We want to know the value of mixing machines, and whether it is wise to allow a smaller proportion of cement, say 10 per cent. less, if the concrete is mixed by machinery, owing to the fact that it is better mixed. Into all these we must inquire, so as to be able to advise our brother architects and engineers.

(5) Another subject is the carrying out of the work. Should we require that only skilled men under skilled supervision be employed; that the work be kept wetted, be stopped in frosty weather; how long the centres should be kept up, &c.? All these can only be indicated as matters for your consideration and judgment, and upon which an authoritative pronouncement would be desirable.

(6) One important question which we must consider is what are the safe stresses to allow in various cases. There is apparently no such general agreement upon the safe stresses and methods of calculation as we find in regard to steel or iron, and it is possible that in the present state of knowledge we cannot tell with sufficient accuracy what are the internal conditions in a non-homogeneous beam, to enable us to determine rules which are not open to criticism or improvement with the advance of experience.

Reinforced concrete is, however, being used, and there is need of rules—tentative though they may be—to guide us until we get formulae which will command general assent. Much has been done in the way of experiment in recent years, so that we are in a much better position to test any of our theories by the results of actual work.

It may be found desirable to refer this part of our subject to a Sub-Committee of those amongst us who are specially qualified by reason of their mathematical attainments to pronounce upon it.

Our Commission is limited to preparing *suggestions and recommendations*, and therefore any report that may be made will be in the way of advice and not as fixed and immutable rules.

How far our Building Acts and By-laws should be altered to permit of the use of reinforced concrete walls may also be considered, because as they stand they interfere with the reasonable use of the material.

There is a general feeling that our regulations as to walls should be relaxed in all buildings, at least in rural districts. The agitation for reform in this respect has not yet spread to urban districts, save in regard to the material we are studying; and it

certainly seems that if the strength is increased by the use of a metal skeleton the thickness of a concrete wall may be correspondingly reduced.

We fortunately have with us municipal and county engineers and district surveyors whose experience in the working of these by-laws will be of value in restraining too much reforming zeal should we display it.

All the questions thus briefly reviewed are matters upon which the general body of architects and engineers and others interested would no doubt value the consensus of opinion of skilled and disinterested men who have studied the subject. Such an opinion will help the introduction of the material by giving those who hesitate to employ it through want of knowledge, and fear of the responsibility, the assurance of the conditions under which it may safely be used, and give that confidence which is at present lacking. It will call attention to its advantages where it has any, such as road bridges over railways, which at present deteriorate rapidly with rust.

Special Elections to Fellowship.

At the meeting of the Council on Monday 23rd inst. the following gentlemen, being Presidents of Allied Societies and eligible for admission under the Charter and By-laws, were elected to Fellowship of the Institute pursuant to the proviso in By-law 9—viz.

HARRY SUTTON CROWLEY, M.A. OXON. [A. 1896], *President of the Leeds and Yorkshire Architectural Society*; of Park Chambers, 16, Park Place, Leeds.

JAMES MILNE MONRO, *President of the Glasgow Institute of Architects*; of 28, Bath Street, Glasgow.

HABBOTTLE REED, *President of the Devon and Exeter Architectural Society*; of 12, Castle Street, Exeter.

HOWARD HENRY THOMSON [A. 1889], *President of the Leicester and Leicestershire Society of Architects*; of Halford Chambers, Leicester.

The late Robert A. Bryden [F.].

Mr. Robert Alexander Bryden, whose death is announced at the age of sixty-four years, had been a Fellow of the Institute since 1878. Mr. Bryden was a native of Glasgow, and served his apprenticeship with Messrs. Clarke & Bell, afterwards becoming principal assistant to the firm, and subsequently being admitted to partnership. Latterly he carried on an extensive business in his own name, in association with one of his sons, Mr. Andrew Bryden. He enjoyed a large general practice in Glasgow and neighbourhood. Some of the principal buildings in the city were erected from his designs, some of the most notable being

the buildings in Bothwell Street, comprising the Christian Institute, the Bible Training Institute, and the Young Men's Christian Association Club. He gave special study to the construction and requirements of hospitals, among his recent important works in this connection being the new Maternity Hospital for Glasgow and a hospital in course of erection in the Isle of Man. The Orphan Homes of Scotland at Bridge of Weir, with the Consumptive Sanatoria and Home for Epileptics, were built wholly from his designs.

ALLIED SOCIETIES

The Aberdeen Society of Architects.

The Annual Report of the Aberdeen Society of Architects states that the Council, in co-operation with Mr. Stewart, Head Master of Gordon's College, have arranged a course of study for architects' pupils and apprentices at Gordon's College and Gray's Art School. The curriculum has been unanimously approved by the Society, and members have undertaken to do all in their power to induce their pupils and apprentices to take advantage of the course of study open to them. The following are the office-bearers and Council of the Society for 1906-7:—*President*, Mr. Robert G. Wilson; *Vice-President*, Mr. John Rust; *Council*, Messrs. Arthur Clyne [F.], A. G. R. Mackenzie, G. Bennett Mitchell, James B. Nicol, James M. Pirie; *Hon. Secretary*, Mr. A. H. L. Mackinnon [A.]; *Hon. Treasurer*, Mr. William Kelly.

MINUTES. XII.

At the Twelfth General Meeting (Ordinary) of the Session 1905-6, held Monday, 23rd April, at 6 p.m.—*Present*: Mr. Edwin T. Hall, *Vice-President*, in the Chair, 13 Fellows (including 3 members of the Council), 20 Associates (including 1 member of the Council), 1 Hon. Associate, and numerous visitors: the Minutes of the Ordinary and Special Meetings held the 2nd and 3rd April respectively [p. 316] were taken as read and signed as correct.

The following Associates attending for the first time since their election were formally admitted by the Chairman and signed the Register—viz. Walter St. Leger Crowley (Newcastle-on-Tyne) and Charles Henry Holden.

The Hon. Secretary announced the decease of Robert Alexander Bryden (of Glasgow), *Fellow*, elected 1878; and William Goldsmith, *Associate*, elected 1892.

Papers on PLASTERWORK, illustrated by lantern slides, were read by Messrs. George P. Bankart and Laurence A. Turner, and having been discussed a vote of thanks was passed to the authors by acclamation.

The thanks of the Meeting were further accorded to Mr. George P. Bankart for the collection of photographs of Plasterwork which he had kindly lent and arranged for exhibition in the Meeting Room.

The proceedings then closed, and the Meeting separated at 10 p.m.



EXCELLENCE IN ARCHITECTURE.

ROYAL ACADEMY LECTURES, 1905.

By Professor AITCHISON, R.A.,

PAST PRESIDENT R.I.B.A., ROYAL GOLD MEDALLIST.

THE object we have in view is to make our architecture better, and the question is how this is to be done. It seems to me that, in the first instance, we ought not to take any student who shows no original invention, unless indeed he has so determined a taste for architecture that he would rather work at it for half the money he could get for doing anything else. The late W. Burges, A.R.A., had the chance of going into his father's office—that of Messrs. Walker & Burges, the celebrated engineers—and of eventually becoming a partner, but his whole soul was taken up with Gothic antiquarianism and iconography, and he despised and scorned engineering.

Nature apparently does everything in accordance with fixed laws, but as yet we know but little about them. Apparently she hardly furnishes houses for land animals—(though the Fool in *King Lear* says, "I can tell why a snail has a house. Why, to put his head in; not to give it away to his daughters, and leave his horns without a case")—but defensive armour at least for snails and tortoises; but she furnishes these houses or defensive armour to many more water creatures than land ones. Nature herself modifies and sometimes carves her own works: her chisels are mostly rain, ice, lightning, and sand driven by the wind. There is the appearance of a mediæval town formed by fantastic rocks near Amalfi, and there are tall mounds apparently carved by wind-driven sand in the Vargen Valley, America. The repetition of rounded holes of trees in forests is always pleasing, and, like the sheer vertical sides of mountains with gigantic projecting cornices, may give us hints if we observe and can use them.

The next thing is in what way we may improve this original talent of the student. We see what the poets have done: they have translated all the good pieces of foreign poets into their own language, as the Romans did from the Greeks. In modern days each good poet has taken the best pieces of the poetry of some other nation and tried to make them as

admirable in his own tongue. This is of course more difficult when the poetry is comic than when it is tragic; though Hookham Frere has rendered the scathing sarcasm of Aristophanes very well, yet some of the comic parts are not done so well. Perhaps Frere's sense of decorum has been the cause of this. We all know how Tennyson learned Hebrew in his middle age to see if he could not get the sublimity of expression from it.

Michelangelo believed all the visual fine arts to be founded on the art of drawing. It

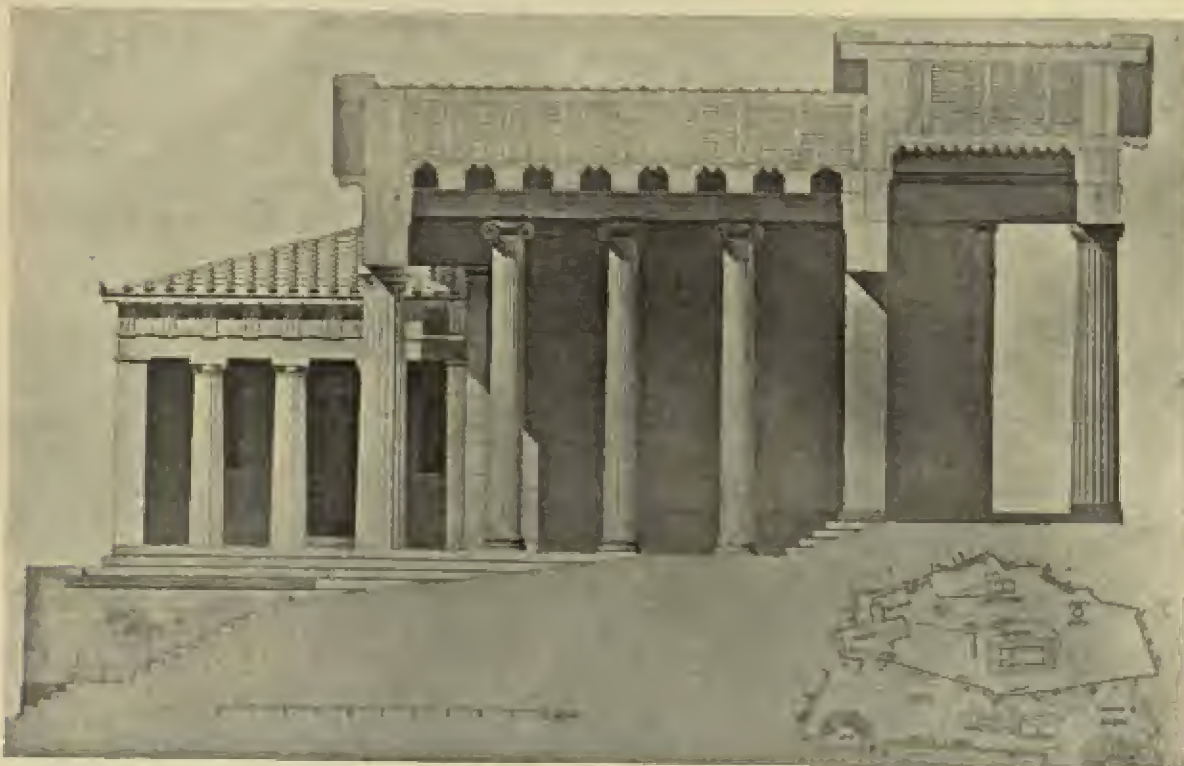


PROPYLEA OF THE ACROPOLIS, ATHENS. RESTORED BY E. ULMANN.
From l'Esquise's *Fragmente d'Architecture Antique d'après les Reliefs et Restaurations des Anciens Peintures de l'Académie de France à Rome*.

may perhaps appear to be unwarrantable conceit on my part to try to set up an opinion in opposition to that of Michelangelo, who built and adorned the sacristy of San Lorenzo at Florence, undoubtedly the most perfect piece of architecture and sculpture combined since the dawning of the Renaissance. This sacristy is full of what we may call architectural solecisms, but when you put yourself in the proper place the whole arrangement falls into perfect harmony, and these solecisms cease from troubling. It seems to me that architecture is the perfecting of construction so as to ensure beauty, or whatever other quality is wanted to express the destination of the building. As nature's object is to make everything not only

to answer its purposes completely but to be clothed in grace, beauty, or sublimity, so I think architectural students should be encouraged to model rather than to draw, as modelling makes them see and comprehend that they have to deal with mass and weight, while drawing seems to suggest neither, and mass and weight suggest grandeur. That is why early Norman, which is colossal, affects us much more than late Gothic, which is a mere skeleton.

It is possible that hereafter we may find out that secret of nature of how to combine the useful and the beautiful, but at present we are not only far from having discovered it, but so complex is the problem that we can hardly define it; for in nature it is not only the making of the individual parts of each plant more or less beautiful in themselves, but, in the case of trees,



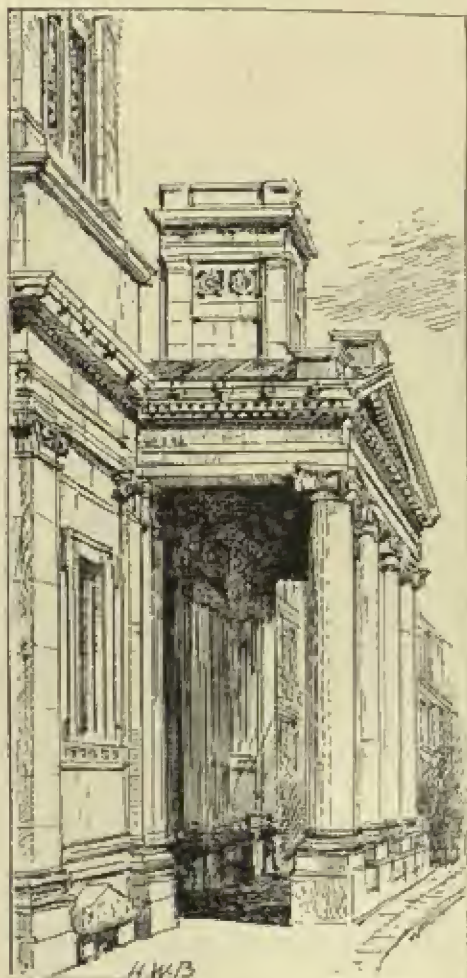
PROPYLÆA OF THE ACROPOLIS, ATHENS, RESTORED BY E. ULMANN.

From D'Espouy's *Fragments d'Architecture Antique d'après les Reliefs et Restaurations des Anciens Peintures de l'Académie de France à Rome*.

making each leaf and flower combine with one another and with the trunk and branches to form a lovely, striking, or sublime effect. Nature alone has succeeded in carrying every point by mixing the useful with the delightful.

This age may be called the iron age, for not only is the framework of buildings being made entirely of iron, but with cast iron we can produce almost anything we like as far as shape goes; but we have not found out how to make the lines of force and beauty coincide. It is the reproach of our art that we have hardly made any structural ironwork beautiful; but the architect, like the poet, is born and not made. If architects have a learned mathematician amongst them he is unknown since the death of E. Wyndham Tarn. Our very Building Act has not been scientifically evolved, but has had to take the thickness of walls from the isolated walls of Hadrian's Villa at Tivoli. I think when we have secured as students only those who possess architectural invention and the necessary statical

knowledge that will enable them to make their constructions safe, the Academy might at least make those who secure the Travelling Studentship submit a thorough restoration of some ruin. Most of our students merely make pencil or water-colour sketches of the various buildings, which scarcely teaches them anything. What is wanted is to make them investigate the methods by which stability and beauty were produced by the ancients. They should make a complete restoration, with every piece found amongst the ruins properly fitted in.



HANOVER CHAPEL, REGENT STREET, S.W. REMODELED,
C. B. COCKERELL, ARCHITECT.
From a Sketch by the late H. W. Brewer.

The late M. Charles Garnier says in his book, *A travers les Arts*, on the subject of restoration in drawings from ruins, "The choice of a restoration is always an important affair for the French student in Rome; it does not involve a slight study quickly carried out; but on the contrary many months of solitude abroad, sometimes even an exile to the feet of the ruins has to be chosen; it involves a year at least. How many have passed more than two years at the work loyally to fulfil their engagement! And with what ardour the young artists give themselves to their work! What researches they undertake! What fevered evenings they pass in seeking the antique truth and reproducing it! Then at last the days run on and the work is done; the drawings are sent to Paris, and one waits with impatience the impression and judgment of the public. It is then that the kind-hearted man studies and the impatient attack them. These draw in their train the crowd of those indifferent, and a thousand voices say, To what end is this? But, unjust and churlish souls; it serves the history and the palpitating life of the art. It serves to compare the past and the present, and it serves, above all—for that is its aim—the artist who has worked. Do you believe that the time which the artist has passed in measuring these fragments, in cross-questioning these remains, for assigning them their places and their employment—do you believe that this time is lost to the artist? He is familiarised with the primitive principles and the art of construction; he has lived the life of other times; he has brought together the history of

man and stones; he has learned how to study, how to compare, how to reason; he has, in short, learned the alphabet of architecture, and whatever may be his future ideas he will know how to express them. If his colleagues have already done analogous work, is that a reason that he should not do it too? If my neighbour at college has translated Virgil and Cicero, is that a reason that I should not translate them in my turn? Do not laugh, then, at these ignorant attacks; it is a noble attempt to employ one's youth in studying one's art, in the hope of becoming later a master in one's turn."

I have observed that some of our best modern architects have passed much of their time in studying and measuring the antique. It was supposed that Palladio got his grand style

by his familiarity with ancient Roman work, most of which he had measured and published. You probably know that in Palladio's book published in 1570 he only gives the five orders, private houses, roads, bridges, piazzas, covered porticoes, and temples. Lord Burlington, who was a great student of Palladio, and in whose house we now are, knew that Palladio had measured all the remaining baths in Rome; but the drawings had been lost, and after much research he found them by accident in the palace of Daniel Barbaro, once the Patriarch of Aquilea, and he had the drawings engraved at his own expense and published in London in 1730. We have a copy in the Library of the Royal Institute of British Architects. This book was subsequently reprinted and enlarged by Charles Cameron, London, in 1775. Should



THE TAYLOR AND RANDOLPH BUILDINGS, OXFORD; SOUTH-WEST VIEW. C. R. COCKERELL, ARCHITECT.

England ever become a great and rich country we may want baths at least equal to those of ancient Rome, where one of the halls was paved with lapis lazuli, and some of the windows are supposed to have been of stained glass; where the columns were of the costliest and rarest marble, and where the vaults were clothed with enamelled glass mosaic.

I have often heard my father speak with admiration of the proportions of the front of Somerset House designed by Sir William Chambers, which was the subject for the Silver Medal when he was a student, and for which he tried. Sir William Chambers designed a bridge at Wilton, near Salisbury, and a beautiful garden pavilion at Castle Howard. Wilkins published *The Antiquities of Magna Græcia* in 1807 and the *Civil Architecture of Vitruvius* in 1812. It is only after seeing the models for the National Gallery and for the steps and portico of University College, London, that we become fully aware of the elaborate pains Wilkins took to ensure success.

Professor Cockerell illustrated with his own hand all the sculpture that he discovered in Greece, and, I think, the Elgin Marbles, and his restoration of the Mausoleum is much more beautiful than the real one. He arranged the group of Niobe, and as he was really born a sculptor he designed the sculpture in the pediment of St. George's Hall at Liverpool; in all his works we admire their artistic excellence. It is quite delightful to see the elegance and refinement of his work in Liverpool, London, and Oxford.

I just recollect my father and mother going to see Sir John Soane have the medal from the English architects presented to him. Some of Soane's façades to the Bank of England are very fine and original, but I think the private houses that he built in what I think was called "Bank Chambers" were some of the most beautiful and most original things we had in England. They have been pulled down lately to make way for houses that will let for larger rentals. It would be quite a revolution in the views of City men if any attention should be paid to the preservation of buildings of the greatest originality and beauty. In fact I am surprised that St. Paul's has not been turned into a meat market or a general hall for the railways of London!

I make a great point of the students knowing how to calculate the stability of construction. We have no domes built now because no one knows how to secure their stability, and the imitation Gothic that we so much use cannot be improved upon because no one knows scientifically how to construct, and is therefore obliged to keep to the reproduction of old forms. I once had to look over the drawings of a new Gothic church, and asked the young architect what weight the columns had to carry. He said he did not know, and when asked how he knew they would stand, he said he had been brought up in the office of a distinguished architect, who had a bigger church built with columns of the same stone and the same size. There was also a vaulted ambulatory round the chancel, and flying buttresses. I asked him what the thrust of these vaults was. He said that they had no thrust. "Why, then, did you put flying buttresses?" "Because they make a picturesque feature," was the reply.



Frame from the Basilica, Emilia.



REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1905-1906.

Approved and adopted by the Annual General Meeting, Monday, 7th May 1906.

SINCE the publication of the last Annual Report the Council have held 21 meetings, of which the Council elected in June last have held 18. The following Committees appointed by the Council have met and reported to the Council on matters referred to them:—Registration, Competitions, Prizes and Studentships, Finance, Sessional Papers, Professional Questions, London Building Acts Amendment, Premises, Plumbers and Ventilating Engineers, Milan Exhibition, Fellowship Drawings, London County Hall.

Obituary. The losses by death have been as follows:—*Fellows*: William Gibbs Bartleet, Hyman Henry Collins, Colonel John Eaton, Charles Forster Hayward, Zephaniah King, Thomas Edward Knightley, Henry George Luff, Robert Alexander Bryden, John Pollard Seddon, Alfred Waterhouse, James Weir, Joseph Wood. *Retired Fellow*: Charles Henry Howell. *Associates*: William Goldsmith, Richard Groom, Charles Grayson Maynard, Hedley John Price, William Moss Settle, Robert Phillips Whellock. *Hon. Corr. Members*: Charles Lucas, Conte Giuseppe Sacconi.

Obituary notices of some of the above have appeared in the JOURNAL.

Royal Gold Medal. The Royal Gold Medal was awarded last year to Sir Aston Webb, R.A., in recognition of his distinguished merits as an Architect. The presentation took place on 19th June.

It has been decided to award the Medal this year to Sir Lawrence Alma-Tadema, O.M., R.A. [*H.F.*], in recognition of his services to Architecture. His Majesty the King has signified his approval of the nomination.

Membership. The following tabular statement shows the present subscribing membership of the Institute, compared with that at the two preceding quinquennial periods:

Year	Fellows	Associates	Hon. Associates	Total
1897	602	986	53	1,641
1901	621	1,028	46	1,695
1906	749	1,177	46	1,972

During the official year since the last Annual General Meeting 91 Fellows have been elected, 66 Associates, and 3 Honorary Associates.

Examinations. The Progressive Examinations were held in June and November 1905. The Preliminary was held in London, Belfast, Birmingham, Bristol, Cardiff, Glasgow, Leeds, Manchester, and Newcastle-on-Tyne; the Intermediate in London, Bristol, Glasgow, Leeds, Manchester, and Newcastle-on-Tyne. The Council desire to record their thanks for the valuable services rendered by the Hon. Secretaries and Examination Committees of the various Allied Societies. The Final and Special Examinations were held in London, and Special Examinations for Colonial candidates were held in Durban and Sydney, when two Candidates were examined and passed. The results are shown in the following tabulated form:

	Exempted	Examined	Passed	Relegated	Total
PRELIMINARY EXAMINATION . . .	110	355	245	110	465
INTERMEDIATE EXAMINATION . . .	2	288	153	135	290
FINAL AND SPECIAL EXAMINATIONS . . .	--	171	66	98	171

The total number of candidates was 926. The number of Probationers now stands at 2,507 and of Students at 797. The Council again have occasion to regret that so large a number of Students remain on the list without proceeding to the Final Examination.

The authority given to the Institute of Architects of New South Wales, to exempt properly qualified candidates from the Preliminary Examination of the Royal Institute, has been extended to the Royal Victorian Institute of Architects.

At the first Intermediate Examination held out of the United Kingdom in November 1904, in Sydney, three candidates were examined, of whom two passed.

The Ashpitel Prize was awarded to John Hatton Markham [A.], who passed the Final Examination in June 1905. A Special Prize of books, to the value of £10, was awarded to Albert Robert Myers [A.], of Edinburgh, a Candidate at the November Special Examination, who obtained the highest number of marks at the Examinations held during the year.

The Special Examination for Colonial candidates will be held this year in Toronto and Melbourne.

The Council desire to thank the Board of Examiners for the continuance of their invaluable services.

The Statutory Examinations, qualifying for Candidature as District Surveyor in London, and for Candidature as Building Surveyor under Local Authorities, were held in London in October. Certificates of competency to act as District Surveyors in London have been granted to Albert Anthony Fillary, Edgar Walsh Knight, Edwin Palser, Harry Tom Boden Spencer [A.], and Alexander Lionel Woodward; and a Certificate of Competency to act as Building Surveyor under Local Authorities, to William John Stainton.

Prizes and Studentships. The Deed of Award of the various Prizes and Studentships was presented to the Institute at the General Meeting on the 22nd January. At the distribution of Prizes on the 5th February Mr. John W. Simpson [F.] read a criticism of the work submitted, and the President delivered his Address to Students. An exhibition of the drawings was held from the 25th January to the 3rd February in the Gallery of the Alpine Club, and was visited by 1,080 persons. A selection from the Prize Drawings is now being sent the round of the Allied Societies.

Annual Dinner and Social Functions. The Annual Dinner was held on Friday, the 13th October, in Newcastle, and was well attended. The thanks of the Institute are due to the President and members of the Northern Architectural Association for the excellent programme they arranged, and for their most kind hospitality. A Reception by the Mayor of Newcastle on the evening of Thursday, the 12th October, a steamboat excursion down the Tyne,

a luncheon given by the Northern Association, visits to places of interest in Newcastle, the Annual Dinner itself on Friday the 13th, and simultaneous excursions to Hexham and Durham on Saturday the 14th, were the main features of a most interesting and enjoyable visit.

This year the Annual Dinner will be replaced by the Farewell Banquet of the Seventh International Congress, on Saturday, 21st July.

The President has very kindly continued his much appreciated "At Homes" at the Institute. The first took place on the 7th July, the Exhibition being one of the Painters' Art as applied to the decoration of interiors; the second on the 15th January, when working drawings of recent buildings erected by eminent architects were exhibited.

Institute Premises. At a General Meeting held on the 8th January the Council were instructed to enter into negotiations concerning a site for new Institute premises, and to report to a General Meeting. The Council therefore continued negotiations begun by the President concerning the purchase of the freehold garden site between Nos. 11 and 13 Portland Place. Owing, however, to the impossibility of settling questions of ancient lights in a satisfactory manner, the Council have been obliged reluctantly to abandon the project.

The London Building Act. As mentioned in the last Annual Report, the London County Council abandoned their Bill for Amending the Building Act with the exception of the clauses relating to the Prevention of Fire, which they submitted as a separate Amendment Bill. This was opposed by the Institute, which was represented by counsel, Mr. Pembroke Stephens, K.C., and Mr. H. Courthope-Mumroe. The Bill, as amended, ultimately passed as the London Building Acts (Amendment) Act, 1905.

With regard to the heavy expenditure in connection with this matter, the Council have passed a resolution to the effect that in view of the large outlay incurred in opposing a Bill

Parliament grave consideration should be exercised before again embarking on such an undertaking.

Status of District Surveyors. The Building Act Committee of the London County Council having brought forward certain proposals with regard to the status of District Surveyors, particularly one providing that District Surveyors should receive a fixed salary instead of fees, the Council urged upon the London County Council the desirability of the District Surveyors being practising architects. The Report of the Building Act Committee was referred back by the London County Council.

New County Hall for London. The Council, feeling it to be a matter of vital importance that the County Hall which the London County Council propose to erect on the south side of the Thames, at a cost of £1,000,000, should be a building worthy of the greatest city in the world, addressed, last July, a letter to the London County Council, in which they offered the assistance of the Institute in their efforts to secure a design for such a building. The Establishment Committee of the London County Council having intimated their desire to receive the suggestions of the Institute, the Council, after obtaining the report of a special Committee on the subject, have advised them to institute a combined open and invited competition, to be judged by a jury of Assessors.

Strand Improvement. The recommendations made in the Report of the Royal Commission on London Traffic led the Council again to approach the London County Council with a view to the remodelling of the line of frontage on the north side of the Strand between the churches of St. Mary-le-Strand and St. Clement Danes. The London County Council again declined to reconsider their determination; but subsequently, owing to a renewed agitation in the Press and elsewhere, the Council once more laid their views on the subject before the London County Council.

L.C.C. By-laws with respect to Drains. With reference to the new London County Council By-laws as to drains, the Council much regret that that authority have declined to accept the suggestions made by the Council of the Institute for modification of the stringent requirements as to drawings to be supplied.

Board of Architectural Education. The Board of Architectural Education, in pursuance of their scheme, have appointed members to visit the various Schools of Architecture and report on their working. Such reports have been made with reference to the Architectural Schools of Liverpool University, University College, London, King's College, London, and the Architectural Association Day School; and the Board propose in due course to grant their Certificates, under certain conditions, to students who have satisfactorily completed the various courses conducted by those bodies.

The Board have had under consideration a proposal from the University of Liverpool for conferring degrees in Architecture, and have made certain recommendations thereon.

Registration. The Registration Committee, as existing at the time of the issue of the last Annual Report, drafted a Bill and issued a Report, which have both been printed in the JOURNAL. The Registration Committee, as constituted after the elections in June last year, appointed a Sub-Committee "to take evidence for and against the principle of Registration, and to suggest the course of procedure to be adopted at the General Meeting, when the present scheme of Registration comes up for discussion." The Sub-Committee sat almost weekly for the purpose set forth in the reference, and took the evidence of twenty-four witnesses from London and the provinces. The Registration Committee, after having all the evidence before them, submitted a Report to the General Body at a Special General Meeting held on Tuesday, 3rd April, and the Resolutions then proposed were adopted unanimously.

At the request of the Science Standing Committee, the Council issued invitations to various bodies to appoint representatives on a Joint Committee to draw up rules for the guidance of architects in the use of reinforced concrete. The Committee has been constituted as follows:—*Chairman*: Sir Henry Tanner. *Representing the R.I.B.A.*: Messrs. T. Walmisley, William Dunn, Max Clarke, H. D. Searles Wood, Hon. Secretary to Committee. *District Surveyors' Association*: Messrs. T. H. Watson, E. Dru Drury. *Institute of Builders*: Messrs. Benjamin I. Greenwood, Frank May. *Incorporated Association of Municipal and County Engineers*: Messrs. A. E. Collins, J. W. Cockrill. *War Office*: Colonel C. B. Mayne, Major E. M. Paul, R.E. *Other Members*: Professor W. C. Unwin, Charles F. Marsh.

Fellowship. As the Fellowship will be closed after the end of 1906 to all candidates who are not already Associates or have passed the examinations qualifying for Associateship, the Council, in compliance with the instructions of the General Body of the Institute given at the Business Meeting of the 29th February 1904, sent a Circular Letter to the Allied Societies, in which they suggested that architects of high standing in the various provinces who were not members of the Institute should be approached with a view to their joining. A great number of candidates both from London and the provinces came forward, and those whom the Council found eligible from their work and position were nominated for membership. Twenty-eight candidates were nominated for election at the Business Meeting of the 5th March, of whom six were Associates. A poll was demanded by private members of the Institute, and resulted in the rejection of the twenty-two non-Associate candidates. As most of these non-elected candidates are by their age and position precluded from sitting for an examination, they are thus debarred from membership. The Council cannot but regard such a result as unjust to candidates and most detrimental to the interests of the Institute.

At the General Meeting of the 5th March, when the result of the poll was declared, a

resolution was passed appointing a Committee of the Institute to consider the form of voting-papers, the method of election of Fellows, and other matters connected therewith, including any revision of the By-laws on the subject if necessary, and to report to a General Meeting as soon as possible.

**Appoint-
ments, &c.** Sir Aston Webb, R.A., has been appointed to represent the Institute on the Court of Sheffield University. Sir William Emerson has been reappointed for a further term of three years to represent the Institute on the Court of the Liverpool University.

Messrs. Keith D. Young and Arthur Ashbridge were the Institute Delegates to the Congress of the Royal Institute of Public Health held in July last year.

Messrs. W. D. Caröe and W. H. Atkin Berry were the Institute Delegates to the Conference on Smoke Abatement held last year.

Messrs. T. W. Cutler and G. H. Oatley have consented to represent the Institute at the Royal Sanitary Congress to be held in Bristol in July.

It has been decided that one of the Vice-Presidents of the Institute shall be *ex officio* a member of the Council of the Architects' Benevolent Society.

Sir Aston Webb having retired from the competition for the Carnegie Foundation, "The Palace of Peace," at the Hague, Mr. H. T. Hare has been invited by the Hague Committee to represent Great Britain in his stead. The President is the other British representative.

**Donations,
Bequests, &c.** A sum of £773. 19s. 10d., bequeathed to the Institute for charitable purposes on the death of a Miss Moore, who was to enjoy the income during her life, has now come into the possession of the Institute.

Grants. Since the issue of the last Annual Report the Council have made the following grants:

The Cretan Exploration Fund, 25 guineas.

The Artists' Benevolent Fund, 20 guineas.

The Edinburgh Architectural Association, towards the funds of the Exhibition of Mr. Goodyear's Architectural Refinements, 10 guineas.

Architects' Benevolent Society, 20 guineas.

British School at Athens, 20 guineas.

Architectural Association, £100.

Royal Architectural Museum, 20 guineas.

**Seventh
International
Congress.** The Council have the pleasure to inform members that satisfactory progress is being made in the organisation of the Congress. The total membership up to date, only counting those from whom subscriptions have been received, is 672, of whom 188 are ladies. As it is yet nearly three months before the Congress, the Executive Committee regard this as a sign that the movement will be largely supported. The Council, however, would urge members who have not yet joined, but intend to do so, to send their donations or subscriptions at once, as the work of organisation is enormously facilitated by a knowledge of probable numbers. The general outline of the proceedings has been issued to members in the form of a Circular Letter, and has been published in the JOURNAL. Over 20,000 of these circulars have been sent to architects at home and abroad. The response from foreign countries is most encouraging.

In addition to the grant of £500 mentioned in last year's Report, the Council have decided to give an Invitation Garden Party to the Congress at the Royal Botanic Society's Gardens.

The Society of Architects has generously made a donation of £100 to the Congress funds, and the Architectural Association one of 25 guineas.

The Council venture to express the hope that all members of the Institute will join the Congress, even though they may not be able to be present, and thus enable the Executive Committee to carry through their task in a manner befitting the dignity of our country and our national art of architecture.

The following have been the President's appointments to Assessorships during the official year:

Competitions.

Bangor	Free Library	Mr. Philip C. Thickmessa.
Bristol	Church	Mr. W. J. Tapper.
Cheshunt	Library	Mr. James S. Gilson.
Greenwich	Library	Mr. A. W. S. Cross.
Hackney	Library	Mr. John W. Simpson.
Handsworth	Church	Mr. W. J. Tapper.
Hastings	Hospital	Mr. Edwin T. Hall.
Johannesburg	Technical Institute	Mr. Thomas R. Colclutt.
Lytham	Schools	Professor Beresford Pite.
Newquay	Church	Sir Charles Nicholson.
Perth	City Hall	Mr. John J. Burnet, A.R.S.A.
Plymouth	Schools	Mr. H. Dare Bryan.
Rochester	Technical Institute	Mr. Frank T. Baggallay.
St. Marylebone	Western Ophthalmic Hospital	Mr. Edwin T. Hall.
Stockport	Schools	Mr. Leonard Stokes.
Stowmarket	Schools	Mr. Maurice B. Adams.

Copies of the "Regulations" have been sent to promoters of the following competitions, together with letters requesting that a copy of the conditions should be sent for the Institute Library. In cases where the conditions have been unsatisfactory, letters urging modifications have been sent to the promoters.

Bangor: Museum and Library.
 Bangor: Free Library.
 Birmingham: Municipal Buildings Extension.
 Blackpool: Chapel.
 Bridlington: Shelter and Concert Hall.
 Cardiff: Branch Libraries.
 Caversham: Library.
 Cheshunt: Library.
 Clifton Dartmouth Hardness: Municipal Offices.
 Coventry: Municipal Buildings.
 Darwin: Free Library.
 Deptford: Mortuary and Coroner's Court.
 Derby: Schools.
 Greenock: Schools.
 Greenwich: Branch Library.
 Hackney: Public Library.
 Hastings: Hospital.
 Hove: Library.

Johannesburg: Technical Institute.
 London: New County Hall.
 Luton: Secondary School and Technical Institute.
 Lytham: Schools.
 Newquay: Church.
 Norwich: Shire House Extension.
 Oseott: Schools.
 Plymouth: Schools.
 Reddish, Lancs: Public Baths, &c.
 Ripon: Hydro.
 St. Andrews: Infectious Diseases Hospital.
 St. Marylebone: Western Ophthalmic Hospital.
 Southwark: Library.
 Swadlingcote: Library.
 West Bromwich: Library.
 Westcliff: Church.
 Wigan: Elementary and Secondary Schools.
 Worcester: Schools.

At a Business Meeting held on the 15th May last year the old "Suggestions" were revised, and ordered to be issued under the title of "Regulations for the Conduct of Architectural Competitions."

Finance.

In presenting the statement of income and expenditure, the Council regret that the balance to the good is not as large as it has been of recent years. A glance, however, at the extraordinary expenditure of £785 5s. 8d. in connection with the Institute's opposition to the London Building Acts (Amendment) Bill, 1905, and of £318. 13s. 6d. in connection with the drafting of the Architects' Enrolment Bill, will show that this diminution is due to abnormal circumstances, and not to any lack of financial prosperity. On the contrary, the Council regard it as a proof of prosperity that the Institute has been able to meet these enormous charges and still show an excess of income over expenditure. As a natural consequence, however, there has been no addition to the amount of the invested capital of the Institute, which still remains, as at the time of issue of the last Annual Report, at £18,000.

The Statement of Income and Expenditure and the Balance Sheet for the year ending 31st December 1905 and the Estimate of Income and Expenditure for the current year are appended to this Report.

REPORT OF THE ART STANDING COMMITTEE.

At the first meeting of the Committee Mr. J. Macvicar Anderson was elected Chairman, Mr. George Sherrin Vice-Chairman, and Messrs. W. D. Caröe and James S. Gibson Hon. Secretaries.

During the Session the Committee held four meetings, and have had under consideration the following subjects :

New County Hall for the London County Council.
Clock Tower, St. George's Circus.
Wood Pediments and Dome, Somerset House.
Strand Improvement Scheme.
Restoration of Nottingham Castle.
Charing Cross Station Roof.
Location of Peace Palace.

The erection of a new County Hall by the London County Council was regarded by the Committee as a favourable opportunity to endeavour to secure the best architectural talent of the country being employed upon its design, and the Committee recommended the Institute Council to suggest to the London County Council the desirability of securing this result, and offering to assist them in any steps which they might take to obtain it.

The removal of the Obelisk standing at St. George's Circus, S.E., and the substitution of a Clock Tower was considered by the Committee a very undesirable proceeding ; but the matter was brought before the Art Committee at too late a date for any effective steps to be taken to retain the Obelisk.

Since the date of the former correspondence with H.M. Office of Works with respect to the wood dome and pediments of Somerset House, and the suggestion of the Committee that these should be carried out in stone so as to give them a permanent character, the Committee have to report that a further communication has been received from H.M. Office of Works that it was undesirable at the present time, on the score of cost, to ask Parliament to sanction such a large expenditure as this would entail, and the Committee, in acknowledging the letter, expressed the hope that it might be possible to effect this improvement in the future.

The line of frontage on the north side of the Strand between St. Clement Danes and St. Mary-le-Strand Churches was again considered by the Committee, and the Council of the Institute were asked to make a representation to the London County Council that it was desirable to set back the eastern end of this frontage so as to obtain a wider street at that end, and secure a better view of St. Clement Danes Church than would be obtained by the proposals of the County Council ; more especially as the Royal Commission on Traffic has also made recommendations dealing with the widths of streets in the central parts of London, which recommendations are similar to those of this Committee. The Committee referred to this matter in last year's report.

The matter of the Restoration of Nottingham Castle was very carefully considered, and representations have been made to the Town Council of Nottingham, that if any works are necessary to be done to this structure, they should be carried out under the supervision of an architect experienced in dealing with historical buildings, and who might safely be trusted to preserve their best features. The Town Clerk of Nottingham has replied that if any works are to be done a competent architect will be consulted.

The proposals of the engineers dealing with the Charing Cross Station Roof were very courteously laid by them before the Committee, and Mr. Flockhart kindly undertook to make some sketch suggestions dealing with the ends of the side walls, which it was considered

very desirable should be treated in an architectural manner, and also the wind screen, formed of steel and glass, suggested between these end walls at the Embankment end. These suggestions have been forwarded to the engineers, with a strong recommendation of the Committee that if possible the Railway Company should adopt them, and a Conference has taken place between Sir Benjamin Baker, K.C.B., and Mr. Tempest on behalf of the Company and the Art Committee.

REPORT OF THE LITERATURE STANDING COMMITTEE.

Since the election of the present Committee in June 1905 the Literature Committee have held six meetings.

At the first meeting Mr. R. Phenè Spiers was reappointed Chairman, Mr. Paul Waterhouse Vice-Chairman, and Messrs. Leslie Waterhouse and A. Maryon Watson Hon. Secretaries.

The Committee, having had referred to them "the matter of revising the Lists of Books recommended to Probationers and Students in the R.I.B.A. KALENDAR with a view to making suggestions thereon to the Board of Examiners," have appointed a small sub-committee whose recommendations have been considered on several occasions, and the Committee hope shortly to be in a position to make useful suggestions to the Board of Examiners.

The Committee desire again to acknowledge their indebtedness to the authors of the various reviews and articles written for the JOURNAL and to the publishers who have contributed many interesting works to the Library during the year.

The Loan Collection has been extended by the purchase of further works in duplicate: these increased facilities continue to be much appreciated by the students who use the Library.

The Librarian reports to the Committee as follows:—

During the twelve months ending on the 31st March of the present year 211 volumes and 82 pamphlets have been added to the Library of the Royal Institute, exclusive of periodicals, reports, and Transactions of Societies, and parts of works issued in serial form.

The number of works presented to the Reference Library was 68 volumes and 21 pamphlets.

The works purchased comprise 116 volumes, out of which 64 volumes were added to the Loan Library. There were also 82 volumes presented to the Loan Library.

The attendance of readers in the Reference Library numbered 5,521 (last year 5,577).

The number of works issued on loan was 3,486 (last year 3,406).

The number of books issued through the post was 121 (last year 98).

The number of tickets issued for admission to the Library, other than to members of the Institute or to Students and Probationers, was 181.

Donations of books or pamphlets have been received from Monsieur A. Foucher, Herr H. Muthesius, Herr A. W. Weissman, Mrs. Arthur Cates, Mr. Benjamin Ingelow, Mr. Arthur Crow, Mr. R. Phenè Spiers, Mr. John Bilson, Mr. Robert Williams, Count Robert de Lasteyrie, and Mr. B. T. Batsford.

The late Mr. C. Forster Hayward bequeathed for the use of the Loan Library a number of volumes, which have been presented by his executors.

Mr. Paul Waterhouse, Mr. H. H. Statham, and Mr. B. T. Batsford have presented original drawings by the late Alfred Waterhouse, A. Lippitseh, J. K. Colling, and R. J. Johnson.

Mrs. Arthur Cates has made a donation of books to the "Cates Collection."

Amongst the books presented or acquired during the year the following may be mentioned: Koldewey and Fuchstein's *Die Griechischen Tempel in Unteritalien und Sicilien*; Supino's *Arte Pisana*; Poelaert's *Palais de Justice de Bruxelles*; Allen's *Early Christian Monuments of Scotland*; Moroni and Biagetti's *Intagli in Legno del Coro della Chiesa di San Pietro in Perugia*; Weissman's *De Gebakken Steen*; Westlake's *History of Design in Mural Painting*; Bond's *Gothic Architecture in England*; Simpson's *History of Architecture* (vol. i.); De Baudot and Perrault-Dabot's *Les*

Cathédrales de France; Guedy's *Le Palais du Louvre*; Hollar's *Castella et Prætoria Nobilium Brabantie*; Foucher's *L'Art Gréco-Bouddhique du Gandhara* (vol. i.); Murray's *Designs from Greek Vases in the British Museum*; Blomfield's *Studies in Architecture*; and D'Espouy's *Fragments d'Architecture Antique* (vol. ii.).

LIBRARY STATISTICS 1905-6.

DATE	DAY ATTENDANCES.			EVENING ATTENDANCES.			Books issued on Loan.
	Members.	Non-members.	Total.	Members.	Non-members.	Total.	
1905.							
April	110	190	300	43	143	186	301
May	121	233	354	60	155	215	340
June	109	191	300	62	93	155	286
July	88	161	249	34	60	94	202
August	Reference Library closed.			Reference Library closed.			1
September	120	197	317	32	80	112	297
October	136	229	365	84	107	251	379
November	120	183	303	81	174	255	363
December	114	170	284	41	125	166	277
1906.							
January	129	178	307	72	172	244	323
February	124	197	321	55	146	203	348
March	128	210	333	67	140	207	390
TOTAL	1294	2139	3433	631	1457	2088	3486

REPORT OF THE PRACTICE STANDING COMMITTEE.

Nine meetings have been held since the last Annual Report, and three meetings of the Special Committee appointed to deal with the London Building Acts (Amendment) Bill 1905, all of which were well attended.

The following officers were elected at the commencement of the Session:—Mr. A. H. Kersey, Chairman; Mr. Ernest Flint, Vice-Chairman; Mr. E. Greenop, Hon. Secretary.

The City of London Escape from Fire Bill.—The consideration of this Draft Bill, referred by the Council to the Committee, was resumed after the date of the last Annual Report, and a List of Observations and Suggestions prepared and sent to the Secretary of the Institute, by whom it was forwarded to the City Remembrancer, who courteously acknowledged its receipt. The suggestions received full consideration by the Corporation Committee, but the Preamble of the Bill being found not proved by the House of Commons Committee, nothing further was done.

The London Building Acts Amendment Bill 1905.—Three further meetings of the Special Committee, after the date of the last Annual Report, were held, and the Committee's final Criticisms and Suggestions upon this Bill were draw up and submitted to the Council for forwarding to the London County Council. The Council of the Institute having decided to oppose the Bill in Parliament, the Chairman of the Special Committee, Mr. J. Douglass Mathews, attended at the House of Commons on behalf of the Institute. The London County Council having withdrawn the greater portion of the Bill, the remaining clauses, relating to Fire Prevention only, were embodied in a new Bill and passed in a modified form, as stated in the Report of the Special Committee already made to the Council.

The Institute Scale of Charges.—The Council referred to the Committee the Revision of the phraseology of the Institute Scale of Charges, particularly with regard to the question of the Ownership of Drawings. The Committee are still engaged in the consideration of this matter.

District Surveyors and the London County Council.—The recent proposals of the London County Council with regard to District Surveyors were brought to the notice of the Committee, and, as a result, the Committee recommended that the opinions of the Architects practising in London should be obtained with a view to memorialising the London County Council on the lines of a letter addressed to them by the District Surveyors. The Council of the Institute did not think it desirable to adopt this course, but expressed their willingness to address a letter to the London County Council to a similar effect, and a letter was accordingly written.

Inquiries and references to the Committee upon points of Professional Etiquette, disputes under Building Contracts, charges for Architects' services, and similar matters have considerably increased, and the time of the Committee has been much occupied with their consideration. With regard to those dealing with Architects' charges, however, the Committee, with a view to limiting the interruption of their ordinary work, have asked the Council to consider the advisability of appointing a Special Committee to deal with such matters, to whom they could be referred as a Tribunal, under a Scale of Charges.

REPORT OF THE SCIENCE STANDING COMMITTEE.

The Science Committee have held seven meetings, with an average attendance of eleven, since the last Report was published. Mr. Lewis Solomon was appointed Chairman, Mr. Max Clarke Vice-Chairman, and Mr. H. D. Searles-Wood and Mr. Bernard Dicksee Hon. Secretaries.

The Committee have drawn up a short description of the tests to be applied to Portland cement for insertion in specifications where only small quantities of cement are to be used. The inquiry into the present method of applying Dr. Angus Smith's solution and other preparations for protecting iron has been carried on, and a series of experiments with iron drain pipes treated with different preparations is now being conducted.

A Joint Committee, representing the Royal Institute of British Architects, the Royal Engineers, the Institute of Builders, the District Surveyors' Association, the Association of Municipal Engineers, and several engineers, has been formed to draw up a series of suggestions for the use of reinforced concrete, as has been done in other countries, and the Committee are now collecting information. Some experiments have been made by Messrs. Cubitt on reinforced concrete beams. Members of the Science Committee attended when the beams were in the process of formation; the experiments are not yet completed.

The Committee have reported on the Draft Specification for structural steel drawn up by the Standard Committee. The Committee have also been represented on the Standard Committee dealing with the subject of cast-iron pipes for heating and ventilating. The Committee have revised the list of books on science subjects recommended to Probationers and Students preparing for the Examinations. The Brickwork Tests Reports have been published, and the work forms a valuable book of reference.

FINANCES.

The accounts of Ordinary and Trust Funds for 1905, prepared by Messrs. Saffery, Sons, & Co., Chartered Accountants, and audited by Messrs. Sydney Perks [F.] and W. Arthur Webb [A.], the Hon. Auditors appointed at the Annual General Meeting of 1905, here follow:—

Income and Expenditure Account of Ordinary Funds for the Year ended 31st December 1905.

Dr.	Exclusive of Entrance Fees, Final Examination Fees, and Subscriptions in advance.				Cr.
EXPENDITURE.				INCOME.	
To ORDINARY EXPENDITURE—				By ORDINARY INCOME—	
	£	s.	d.		£ s. d.
Rent	935	0	0	Subscriptions—	
Gas and Electric Lighting.....	87	9	0	879 Fellows at £4. 4s.	3531 16 0
Coals	33	3	0	Ditto, on Account	1 17 0
				Ditto, Arrears	60 18 0
Salaries		1055	2 0	1,959 Associates at £2. 2s.	3923 18 0
General Printing, Stationery, Stamps, and		1792	7 6	Ditto, Arrears	80 5 0
Petty Expenses.....		645	14 11	39 Hon. Associates at £2. 2s.	81 18 0
Expenses of General Meetings, Exhibitions, &c.		323	3 10	Ditto, Arrears	10 10 0
Housekeeping		147	0 9		5370 2 0
Advertisements		81	0 9	Dividends on Stocks and Shares—	
Examination Expenses		461	0 9	Architectural Union Co.	184 2 0
General Repairs		269	8 4	Consols	52 5 0
Fire Insurance		23	3 0	Tasmanian Government Stock	63 1 2
Medals and other Prizes		205	9 0	Dominion of Canada Stock	24 4 0
Grant to Library	150	0	0	Queensland Government Stock	46 16 10
Grant to Architects' Benevolent Society	21	0	0	Great Western Railway Stock	55 0 8
Grant to International Congress	235	0	0	London and North-Western Railway Stock	33 1 10
Grant to Royal Architectural Museum	21	0	0	Madras Railway Stock	44 17 8
Grant. Gibson v. Pease	105	0	0	Great Northern Railway Stock	13 17 4
Grant to Architectural Association	100	0	0	Cape of Good Hope Stock	25 7 8
Grant to Cretan Exploration Fund	28	5	0	Interest on Deposit	20 4 6
Grant to Edinburgh Architectural Association	10	10	0		853 7 8
Grant to British School at Athens	71	0	0	JOURNAL and KALENDAR—	
The JOURNAL—		679	15 0	Advertisements	916 13 4
Reporting	59	17	0	Sales	£119 14 8
Printing and Binding.....	870	8 8		Sales of other Publications.....	449 13 0
Illustrations	131	8 0			868 7 8
Addressing, Postage, and Carriage	265	13 6			1495 1 0
The KALENDAR—		1370	4 11	Use of Rooms—	
Printing	177	11 0		District Surveyors' Association	25 0 0
Postage and Carriage	22	12 0		R.I.B.A. Tenants	55 0 0
		250	3 0		80 0 0
Contributions to Allied Societies		323	9 9	Examination Fees—	
MISCELLANEOUS EXPENSES—				Statutory	53 11 0
London Building Act Amendment Bill	785	8 8		Preliminary	785 8 0
Registration Bill	218	12 6		Interim	622 13 0
Legal and Accountants' Charges	37	9 11		Special and Final (forfeited)	264 14 6
Honorarium to Staff	88	0 0			1728 6 0
Brickwork Tests	101	3 0			
Telephone	31	4 9			
Miscellaneous	59	10 4			
		1411	13 6		
Dinner	32	7 0			
Balance of Income over Expenditure		165	12 4		
SAPPERY, SOSS, & Co., Chartered Accountants.		£9168	16 8		£9168 16 8

Examined with the vouchers and found to be correct. 30th March 1906.

(Signed) SYDNEY PERKES.
W. ARTHUR WERN.

Dr.	Balance Sheet of Ordinary Funds, 31st December 1905.				Cr.
LIABILITIES.				ASSETS.	
	£	s.	d.		£ s. d.
To Sundry Creditors outstanding.....		272	8 1	By Cash at Bank	914 18 11
To Examination Fees anticipatory of election		201	12 0	By Investments at cost—	
To Subscriptions for 1906 received in advance		114	8 0	Architectural Union Co., 263 Shares	3643 1 0
To Building Fund		1121	2 8	Consols 2½ per Cent. £2500 10s.	3323 12 2
To Charitable Fund		195	14 9	Tasmanian Government 3½ per Cent. Stock £1896, 8s. 6d.	2030 0 0
To Travelling Fund		1255	4 0	Dominion of Canada 3 per Cent. Registered Stock £1200	1719 11 0
To Accumulated Fund—				Queensland Government 3 per Cent. Stock £1643, 9s. 1d.	1550 0 0
Surplus of liquid assets over Liabilities as per last Balance Sheet	18070	8 2		Great Western Railway 5 per Cent. Consolidated Preference Stock £747	1199 16 10
Add Entrance Fees received in 1905	471	9 0		London and North-Western Railway 4 per Cent. Consolidated Preference Stock £571	1049 5 8
Arrears for 1905 (as per contra)	277	0 0		Madras Railway 4½ per Cent. Stock £1040	1285 4 0
Less Arrears 1904, since received or cancelled..... £194 8 0	11769	2 2		Great Northern Railway 4 per Cent. Consolidated Perpetual Preference Stock £635	999 12 0
Furniture and Fittings bought	44	3 7		Cape of Good Hope 3½ per Cent. Stock £1256, 13s. 6d.	1500 0 0
		338	8 7	By Building Fund—	
		18430	14 7	Indian Government 3½ per Cent. Stock £1036, 0s. 3d.	1121 2 3
Add Balance of Income over Expenditure in 1905	168	12 4			17961 4 11
		18600	5 1	By Debtors (Rents, Advertisements, &c.)	63 11 0
				By Subscriptions in Arrear 1904	277 0 0
				Ditto 1905	243 0 0
SAPPERY, SOSS, & Co., Chartered Accountants.		£18989	12 2		£18989 12 2

Examined with the vouchers and found to be correct. 30th March 1906.

(Signed) SYDNEY PERKES.
W. ARTHUR WERN.

Revenue Account of Trust Funds for the Year ended 31st December 1905.

Dr.		Cr.	
ASHFIELL PRIZE FUND:—			
To Cost of Ashfiele Prize (Mr. C. L. GRIFFITHS (A.))	10 0 0	By Balance from last Account	29 2 0
To Balance carried forward	32 2 0	By Dividends on 20 Shares, Architectural Union Co., at 14s. per share	14 0 0
	42 2 0		43 2 0
DONALDSON TESTIMONIAL FUND:—			
To Balance carried forward	8 2 3	By Balance from last Account	5 10 7
	8 2 3	By Dividends on £72 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	2 12 8
			8 3 2
GODWIN BURSARY:—			
To Grant to Mr. H. P. Fletcher (F.) (Balance)	10 0 0	By Balance from last Account	80 7 8
To Grant to Mr. F. R. HARRIS (A.) (first instalment)	30 0 0	By Dividends on £1030 Canadian Railway 4 per Cent. Debenture Stock	29 2 10
To Cost of Medal	1 17 6		109 10 6
To Balance carried forward	38 15 0		
	145 10 4		
GRIFFITHS LEGACY:—			
To Balance from last account	0 1 4	By Dividends on £270. 0s. 8d. H. Annuity Grant Indian Peninsula Railway	12 11 3
To Cash paid Medalist (Mr. J. A. Hunter)	10 10 0	By Balance carried forward	4 18 1
To Cost of Medal	9 18 4		20 9 4
	20 9 4		
LIBRARY FUND:—			
To Purchase of Books, Binding, &c.	167 18 1	By Balance from last Account	73 11 11
To Petty Expenses	2 8 7	By Annual Donation from Mr. Sydney Smith (F.)	5 0 0
To Balance carried forward	59 5 2	By Annual Grant from Ordinary Fund	150 0 0
	199 3 10	By Entrance Donation of Honorary Associates	4 4 0
		By Fees, &c. (Loan Library)	7 7 11
			199 3 10
OWEN JONES STUDENTSHIP:—			
To Balance carried forward	225 5 3	By Balance from last Account	222 0 5
	225 5 3	By Dividends on £1128 Midland Railway 2½ per Cent. Debenture Stock	40 10 10
		By Dividends on £1100 Great Western Railway 4 per Cent. Consolidated Guaranteed Stock	82 5 0
			115 5 5
PUGH MEMORIAL FUND:—			
To Balance from last account	3 8 9	By Dividends on £1070 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	40 15 4
To Cash paid Student 1904 (Mr. F. C. Myers)	40 0 0	By Balance carried forward	20 12 11
To Cash paid Student (Mr. H. A. Dalrymple)	10 10 0		61 6 5
To Cost of Medal	1 9 6		
	51 8 5		
TITE LEGACY FUND:—			
To Cash paid Prisoner (Mr. R. Atkinson)	30 0 0	By Balance from last Account	20 15 0
To Cash paid Mr. A. G. Horne	5 5 0	By Dividends on £1150 2½ per Cent. Consols	27 6 4
To Balance carried forward	22 10 4		48 1 4
	45 1 4		
ARTHUR GATES LEGACY:—			
To Amount paid Prisoner (Mr. F. W. Newman (A.))	42 0 0	By Balance from last Account	50 3 10
To Balance carried forward	88 0 8	By Dividends on £1140 4 per cent. N.-E. Railway Preference Stock	44 1 7
	100 8 8		100 5 8
SAYON SKILL REQUEST:—			
To Cash Purchase of £208. 4s. New Zealand 2½ per Cent. Stock	700 0 0	By Balance from last Account	750 0 0
To Balance carried forward	63 12 2	By Dividends on £208. 4s. New Zealand 2½ per Cent. Stock	11 12 2
	763 12 2		761 12 2
WIMBORNE REQUEST:—			
To Balance carried forward	14 12 1	By Dividend on £1024. 13s. 6d. Metropolitan Water Board 4 per Cent Stock	14 12 1
	14 12 1		14 12 1
ANDERSON AND WEBB FUND:—			
To Balance carried forward	30 2 0	By Dividend on 43 Architectural Union Co. Shares	80 2 0
	30 2 0		80 2 0
SAPPENT, SON, & CO., Chartered Accountants.			

Examined with the vouchers and found to be correct. 204 March 1906

(Signed) | STONEY FERRIS.
W. ARTHUR WOOD.

Dr.

Balance Sheet of Trust Funds, 31st December 1905.

Gr.

To ASSHINGTON PRIZE FUND :—		£ s. d.			£ s. d.
Capital—80 Shares in the Architectural Union Com-				By Government and other Securities for total book value	of Trust Funds invested
pany, Limited, at £14 per Share	260	0	0		
Balance at credit of Revenue Account	32	2	0	By Balance Pugin Memorial Fund	
To DONALDSON TESTIMONIAL FUND :—				By Balance Grissell Legacy Fund	
Capital—£75 L. & N.W. Railway 4 per Cent. Consoli-				By Cash in hands of Bankers	
cated Preference Stock	89	0	0		
Balance at credit of Revenue Account	8	2	3		
To GORWICK BURNARY FUND :—					
Capital—£1030 Caledonian Railway 4 per Cent. De-					
benture Stock	1344	13	6		
Balance at credit of Revenue Account	58	13	0		
To GRISSELL LEGACY FUND :—					
Capital—£20,000 S.E. Ry. Great Indian Peninsula					
Railway	413	14	10		
To LEIGHTY FUND :—					
Balance at credit of Revenue Account	39	5	3		
To OWEN JONES STOCKSHEPHERD FUND :—					
Capital—£2128 Midland Railway ½ per	£ s. d.				
Cent. Debenture Stock	1773	0	0		
£1100 Great Western Railway ¼ per Cent.					
Consolidated Guaranteed Stock	1000	12	0		
Balance at credit of Revenue Account	2673	12	0		
To POOLE MEMORIAL FUND :—	325	5	3		
Capital—£1070 L. & N.W. Railway 4 per Cent. Con-					
solidated Preference Stock	1342	13	6		
To TITE LEGACY FUND :—					
Capital—£1150 ½ per Cent. Consols	1109	1	0		
Balance at credit of Revenue Account	22	16	4		
To ARTHUR DATES LEGACY FUND :—					
Capital—£1100 N.E. Ry. 4 per Cent. Preference Stock	1504	5	0		
Balance at credit of Revenue Account	36	5	5		
To SAXON HELL BEQUEST :—					
Capital—£688, Is. New Zealand ¾ per Cent. Stock ...	700	0	0		
Balance at credit of Revenue Account	61	12	2		
To WINDHAM BEQUEST :—					
Capital—£1024 18s. 8d. Metropolitan Water Board					
¼ per Cent. Stock	1000	0	0		
Balance at credit of Revenue Account	14	12	1		
To ANDERSON AND WEBB FUND :—					
Capital—43 Shares in the Architectural Union Co., Ltd.					
at £14 per share	602	0	0		
Balance at credit of Revenue Account	20	7	0		
SAFERY, SONN, & CO.,	£12569	16	6		
Chartered Accountants.					

Rechecked with the vouchers and found to be correct. 20th March 1968.

(Signed) { STONEY TROTT,
W. ARTHUR WOOD.

The Council submit an Estimate of Income and Expenditure of Ordinary Funds for the year ending 31st December 1906, exclusive of Entrance and Final Examination Fees :—

Estimate of Income and Expenditure for Year ending 31st December 1906.

EXPENDITURE		INCOME	
	£ s. d.		£ s. d.
Fuel, Lighting, and Warming	1100 0 0	Subscriptions and Arrears	8425 0 0
Salaries	1790 0 0	Dividends on Stocks and Shares and Interest on Deposit Accounts	800 0 0
General Printing, Stationery, Postages, and Petty Expenses	475 0 0	Sale of Publications (other than JOURNAL and KALENDAR)	470 0 0
General Meetings, Exhibitions, &c.	395 0 0	JOURNAL and KALENDAR—	
Housekeeping	175 0 0	Sales	120 0 0
Advertisements	60 0 0	Advertisements	1000 0 0
Examination Expenses	475 0 0		
General Repairs	100 0 0	Use of Rooms	1120 0 0
Fire Insurance	35 0 0	Examination Fees—	80 0 0
Medals and other Prizes	715 0 0	Statutory	30 0 0
Grant to Library	140 0 0	Preliminary	850 0 0
Grant to Congress	250 0 0	Intermediate	645 0 0
Other Grants (A.A., A.B.S., and British Sch. Rome)	145 0 0	Special and Final (forfeited)	275 0 0
JOURNAL	1350 0 0		1750 0 0
KALENDAR	250 0 0		
Contributions to Allied Societies	350 0 0		
Miscellaneous—			
Registration	150 0 0		
Legal and Accountants' Charges	100 0 0		
Garden Party	450 0 0		
Miscellaneous	100 0 0		
	800 0 0		
Balance	1250 0 0		
	£2445 0 0		£2445 0 0

AUDITORS' REPORT FOR 1905.

We have carefully examined the accounts of Expenditure and Income for the year 1905, and have much pleasure in reporting that we consider the books of the Institute have been well and accurately kept.

Reference to the Estimate published in last year's Annual Report will show several satisfactory features. A saving has been effected in the items of Lighting and Warming, General Printing and Advertisements, and an increased amount has been received for subscriptions, examination fees, and sale of publications. With reference to the income from Advertisements, we are glad to note that the sum in future will be brought up to at least £1,000 per annum.

The Receipts amounted to £100 more than estimated. The balance to the credit of Revenue would have been nearly £1,300 had not an excess of expenditure been incurred in connection with the London Building Acts Amendment Bill and the proposed Registration Bill. We are of opinion that the charges in connection with the former Bill are excessive, and trust the Council will remember the amount of the account when appointing a Parliamentary Agent to oppose any future Bill.

It is to be regretted that only three competitors entered for such a valuable prize as the Owen Jones Studentship of £100, and only two competitors for the Arthur Cates Prize of 40 guineas.

The number of the Hon. Associates remains practically stationary, and we are of opinion that there should be no entrance fee, and that the subscription should be reduced to the nominal sum of one guinea to cover the necessary annual expenses. The result, in our opinion, would be a material addition to the number of members of this class.

We note that the state of the finances is most satisfactory, and were surprised to find that the remuneration of the senior officials is not higher, particularly in view of the salaries paid by other learned societies. This subject was included in the Report of the Auditors last year, and the recommendation was most favourably received by the members at the Annual Meeting.

March 1906.

SYDNEY PERKS,
W. ARTHUR WEBB, } *Hon. Auditors.*

DISCUSSION OF THE ANNUAL REPORT.

Sir JOHN TAYLOR, K.C.B., *Vice-President*, in the Chair.

THE CHAIRMAN having formally presented the Annual Report to the Meeting and moved its adoption, the Motion was seconded by Mr. JOHN SLATER [F].

Mr. WILLIAM WOODWARD [F], rising to offer a few observations on the Report, said that members would all agree as to the excellent progress the Institute had made with regard to the accession of Fellows and Associates: 91 Fellows and 66 Associates were by no means an unimportant addition to the roll of members. With regard to the Council's expression of regret that so large a number of Students remained on the list without proceeding to the Final Examination, he had had the opportunity of seeing many of the examination papers, and he must say that, although he should be the last to minimise the importance of the Examination or to make

them too easy, he did feel that not sufficient time was given in the Examination Hall for many of the papers set before the candidates. As a Moderator at the examinations of the Surveyors' Institution, he knew the effect time had on the candidates. Excellent, clever students were always looking at the clock or their watches to see whether they could get through their work in the time allotted. If a little more time were given for the working of the papers it would be conducive to the interests of the Institute, and also to the candidates. With reference to the drawings submitted for the Prizes and Studentships, Mr. Woodward regretted that only eleven days were given for the inspection of the drawings at the Alpine Club Galleries; and he suggested that if that time could be extended it would afford many members an opportunity to see those

drawings, which he and many others he knew had been unfortunately obliged to miss. If the time could be extended to at least a fortnight, not only the older men, but the students also who desired to study the drawings, would have an opportunity of doing so. The reference to the abandonment of the scheme for acquiring a site for new Institute premises would not, he hoped, deter the Council from endeavouring to find an adequate site for premises. He himself had inspected the site referred to, and had remarked, as no doubt the Council had done, that it was surrounded by rights of light which might give rise to difficulties. There must, however, be suitable sites available for the Institute. He hoped the day was not far distant when the Royal Institute of British Architects would be able to say, as the Surveyors' Institution were able to say, that they were housed in their own premises. He agreed with the observations in the Report with regard to the heavy expenditure in opposing the London County Council's Bill in Parliament; but, of course, as they all knew, to oppose a Bill successfully was a costly business. Counsel did not work for nothing any more than architects did. Nevertheless £785 did seem a very large sum of money indeed to have expended on legal charges for the work. Referring to the paragraph as to the status of District Surveyors, where it was pointed out that the Building Act Committee of the London County Council had brought forward certain proposals, and that the Institute Council had suggested the desirability of the District Surveyors receiving a fixed salary, Mr. Woodward said that Lord Welby pointed out that there was not likely to be any saving financially. He (Mr. Woodward) ventured to say—and he hoped no misinterpretation would be placed on his words—that there was no desire whatever on the part of the County Council to save money. The desire was to get the District Surveyors under their thumb. That was the secret of it. Their idea was that if they could get the District Surveyors as salaried officers, in a year or two they would be able to tell them that they must obey the dictates of Spring Gardens. He agreed with the Council that it was very desirable that District Surveyors should be practising architects. They all knew, for example, in the case of their lamented friend Mr. Woodthorpe, that he brought to bear on the questions submitted to him by builders and architects a knowledge of the difficulties of a practising architect, and dealt with the architect in the business-like and helpful way to which Mr. Graham had referred. With reference to the new County Hall for London, there was some considerable ambiguity, to his mind, about the paragraph in the Report which stated that the Council had advised the Establishment Committee to institute a "combined open and invited competition to be judged by a jury of assessors." He confessed his ignorance as to what "a combined open and invited competition" was, but he trusted that the Institute, whatever they did with the proposed Hôtel de Ville, would not nominate or suggest in any way whatever the names of members of the Institute who should take part in a limited competition for that work. The Hôtel de Ville for London should be a perfectly open competition to be taken part in by any British architect. He hoped that the Royal Institute of British Architects would do all that they could to secure an open competition, and that they would not further the idea of "a combined open and invited competition," because the word "invited" meant, he assumed, that the London County Council should invite certain members of the Institute to send in designs; and he hoped that would not be done. There was a reference in the Report to the London County Council by-laws with respect to drains and the drawings to be supplied. Every member would agree that these requirements were absolutely absurd. That an architect should have to waste his client's money and his own time in giving elevations and sections to show water-closets and lavatories was, to

his mind, a most unwarrantable and uncalled-for imposition upon ratepayers and building owners; and it was a troublesome matter to architects, for which they could not make an adequate charge if they had any conscience at all. With regard to recent elections to the Fellowship, attention was called to the fact that a poll had been demanded by private members, and had resulted in the rejection of twenty-two non-Associate candidates. The subject had already been discussed in that room. There was another election in June, and he trusted that members would not this time enter into any cabal for excluding these particular men. Every member who voted at the Institute had, of course, the right to blackball anyone he liked, but this was not a question of blackballing any specific member; it was a question affecting the whole principle of admission, because the twenty-two men rejected were all non-Associate candidates. A London man in being blackballed for the Institute, or any other body of the kind, did not feel it so much; but a provincial man would feel it very much indeed. He was in a more concentrated area; his friends and the public in his particular district would know he was up for election; and to have the fact spread abroad that he had been blackballed by the Institute would be most detrimental to him in his practice, and must make him regret very much indeed that he had put himself up for nomination, as he had been invited to do by the Institute itself. Surely if members had sufficient confidence in the Council, and if the Council inquired, as they did, into the antecedents and as to the professional capacity of these men, they ought not to enter into these cabals to blackball them, as had been done on this occasion. He hoped the suggestion that was thrown out when the matter was discussed before, that the period for bringing to an end the present position should be extended to 1907, would be adopted, so that those men who had been blackballed only, he hoped, for the reason he had stated might have another chance of being admitted, which they would not have unless they deferred that period. He was very glad to see that the Institute had had £773 19s. 10d. bequeathed to it from a Miss Moore. How anyone could have thought to leave money to the Institute "for charitable purposes" he did not know. The gift showed singular prescience on the part of Miss Moore, because the £773 19s. 10d. came to hand at the very time that they had expended £785 in opposing the London County Council's Bill! That, without doubt, was a charitable object of the Institute—and the loss could be at once made good! With reference to the Congress the Report gave them the pleasing information that 188 ladies had agreed to take part in it. He did not know whether those ladies were professional ladies, but it was very satisfactory to hear that the Congress was to be so highly honoured. He could not help wondering, however, why the Council had decided to give a garden party to the Congress. Of all the insane, wretched festivities ever devised by human ingenuity a garden party or a *conversazione* was, to his mind, the worst. He hoped some other form of entertainment more conducive to the enjoyment of those it was intended for would be arranged. Coming to the Report of the Art Standing Committee, he had very little to say to that except in reference to the line of frontage to the Strand, where it was said that a better view of St. Clement Danes Church would be obtained. Although he might be accused of vandalism, he had looked at that site very many times, and he could only say that he should like to see St. Clement Danes Church removed entirely. It contained nothing of archaeological interest and very little of architectural interest; and if it were removed they would find it would open up a very fine vista which he was sure would compensate for the loss of the church. The action of the Institute Council with regard to Charing Cross Station was good. With regard to the Library he was very glad to find again the record of a full attendance

of readers. The number of readers in the reference library amounted to 5,521, and the number of works issued on loan to 3,486. That was a very satisfactory state of things. The Library statistics, too, showed excellent work. They were all very glad to find the Library frequented by such a large number of Students. The Practice Standing Committee's Report referred to the Institute's scale of charges. That scale was revised some eight or ten years ago; but it was again time for it to be revised, because there were many ambiguous paragraphs in it. With the information obtained from the many actions which had been brought since the last revision, they could improve that scale considerably. The Practice Committee's Report concluded with the following proposal:—"With regard to questions dealing with architects' charges, the Committee, with a view to limiting the interruption of their ordinary work, have asked the Council to consider the advisability of appointing a Special Committee to deal with such matters to whom they could be referred as a tribunal under a scale of charges." With that he thoroughly agreed. He thought that there was a great deal too much reference of this nature to public bodies such as the Royal Institute and the Surveyors' Institution; many of these references ought to go to arbitrators and umpires, and be fought out at the expense of the litigants. While disputants could send to the Institute and get all the information they wanted, and have the cases settled without any payment, they would find the number of references always on the increase. If the Practice Committee's suggestion were adopted a great deal of good would result, because nobody would object to paying a small sum for referring the matter to a proper arbitrator. In the Science Standing Committee's Report there was a reference to cement, which led him to make an observation about mortar which might be of interest to those who had not read the case. The London County Council brought an action with regard to mortar which rather turned upon whether in the proportions specified an architect was justified in expecting three of sand to one of slaked lime, or three of sand to one of unslaked lime; and as the difference was about 50 per cent. in bulk it was a matter of importance to architects in the future. He did not know whether architects as a rule did, but it had not been his practice to specify whether he meant, in saying "three to one," slaked or unslaked lime. This case would make architects specify clearly what they did mean. In the Financial Statement there was a reference to "general repairs." He might mention that while the paper on Plaster-work was being read a fortnight ago he was looking up at the cupola in that room as a good instance of plaster-work, and he noticed that several of its rosettes were broken. He would suggest that some of the money they were going to allocate to repairs should be utilised in the restoration of those rosettes. Coming to the Auditors' Report, he remembered years ago when he was Honorary Auditor to the Institute that objection was raised to the Auditors' Report being read at the Annual Meeting, but that it ought to be read thereafter. He was glad to find matters altered, and that it was now the rule to print the Auditors' Report and issue it to members with the Annual Report. This Auditors' Report was very interesting reading. He noticed the saving that had been effected in the lighting and so on. A suggestion was made by the Auditors, which was open to the Meeting to observe upon—viz. that one guinea subscription, instead of two guineas, should be asked from Honorary Associates, to cover the necessary annual expense. He thoroughly agreed that if the subscription were reduced to one guinea they would get a vast accession to the Honorary Associates, which would add considerably to the funds of the Institute, and involve very little extra work on the part of the staff. He hoped that suggestion would be considered by the Council. The final paragraph of the Auditors' Report referred to the remuneration of

the senior officials. He remembered saying last year that he thought, from a considerable experience of the senior officials of the Institute, that they were deserving of some substantial addition to their salaries. Of course one must mention names. There were Mr. Locke, Mr. Taylor, Mr. Dircks, and Mr. Northover—gentlemen who devoted the whole of their time and energies to the purposes of the Institute, but whose salaries compared very unfavourably with those received by officials of other public bodies. (There was, of course, one distinguished member of Parliament who said no man was ever worth more than £500 a year, but who now, as Cabinet Minister, did not hesitate to take his £2,000!) In his opinion they could well afford to give a substantial addition to the salaries of the gentlemen he had named. In conclusion, he could only say generally that he thought the progress of the Institute was good; that it was going on well, not only for the benefit of the body of Architects, but for the public generally; and he felt sure that if the Associates and Fellows would work as they had done during the last five years, the Institute would be, what it ought to be, the only thoroughly representative body of a very great profession.

Mr. E. W. HOSKIN [Jr.] said Mr. Woodward had gone so thoroughly through the Report that very little was left for anyone else to say; but he thought the Institute was to be congratulated on its decision to award the Royal Gold Medal to that eminent painter Sir Lawrence Alma-Tadema. They all appreciated the honour he did them in so frequently attending their meetings, and recognised that among painters no greater man could have been chosen for such a distinction. The number of Probationers and Students was perhaps a matter for satisfaction. He did not wish to be considered a pessimist, but at the same time it was a matter of very serious consideration what these 3,244 young gentlemen who were now coming into the profession would do, looking at the amount of competition there is, not only in this country, but also in the Colonies, where, he believed, the competition was almost as great as at home. That led him to endorse Mr. Woodward's remarks with regard to the new County Hall for London. It was most desirable that it should be an open competition in which all British architects should have the opportunity of competing if possible. There were instances in foreign countries where these great competitions were thrown open—the one for California University, for instance, in which British architects competed. It would be a very great thing if in this case the competition could be thrown open, not to the whole world, but to all British architects. He was quite in accord with the action of the Council with regard to their further endeavours to get the frontage line set back at the east end of Aldwych. It could be accomplished, he thought, without any serious loss of ground rent, because that arm of Aldwych would be the least used of the two, and it would be quite possible to reduce the width very nearly as much as it was desirable to increase the width of the Strand, and open up what to his mind, although not very handsome, was an item in the history of architecture in London—viz. St. Clement Danes Church, which Mr. Woodward appreciated so little. Perhaps it had no particular archaeological interest, but it stood on the site of the centre of the old Danish village; it contained also, he believed, the pew in which Dr. Johnson was wont to worship. He quite agreed with Mr. Woodward's views as to the London County Council's requirements in the matter of drains. There was a reference in the Report to the two delegates at the Conference on Smoke Abatement held last year. He did not know whether any account of the result of those proceedings would appear in the JOURNAL, but this was one of the most important things that could occupy the attention of architects. He thought that they were very often great sinners in the matter of their flies, not only with

regard to its affecting the smoke nuisance, but also as it affected the sky-line. The horribly ugly contrivances of all kinds and shapes on chimney-stacks of some of our public buildings were quite an eyesore. The matter of dues was one which might be put to all young men to get practical acquaintance with—indeed, some of our older architects had something to learn in the matter. He congratulated the Institute on the bequest of the £773 odd, apparently left by some relative of Miss Moore, who had only enjoyed the income during her life. The Council had a very onerous work before them, and the officials also, in the matter of the coming Congress. He was sure it was the duty of every member of the Institute to help in the matter as far as he could, so that the Institute might have nothing to be ashamed of in receiving here, for the first time, architects from all parts of the world. It was the duty of members to prevent its being a failure, or to be anything but the greatest possible success. With regard to the Honorary Members, everyone now in England was trying to do what he could to increase the *entente cordiale* with France, and if the Institute could induce more of the leading French architects to become Honorary Corresponding Members, that would be one way of fostering the *entente*—and not only with France, but also with other countries. The Honorary Associates, he might point out, had the value of their subscriptions in the *Journal* and postage, &c. He was also in accord with Mr. Woodward with regard to the question of salaries. He was sure the *Journal* continued to be a credit to the Institute. It had received the praise of foreign members and eminent men in this country, who considered that the rapidity with which it was published, the matter it contained, and the illustrations made it the publication *facile princeps* of the architectural societies of Europe. The Report on the whole he considered a most satisfactory one.

Mr. JOHN SLATER (F.) said that Mr. Woodward appeared to criticise the action of the Council in advising the London County Council to have a combined open and invited competition for the large hall they proposed to erect; but he did not seem quite to understand what the phrase "combined open and invited competition" meant. It meant this, if there was a purely open competition, it was practically certain that some architects would not go in for it; but if, combined with the public open competition allowing anyone to come in, an invitation to compete was issued to half a dozen architects, not necessarily members of the Institute, a very much better competition would result, because these invited architects who would not otherwise compete would be included. That was the Council's sole reason for advising the London County Council to combine the two systems. With regard to Mr. Woodward's remarks as to the recent *débacle*—he hardly knew how to describe it forcibly enough—on the occasion of the last election to the Fellowship, he cordially agreed with him; but unfortunately the Council had no power and no discretion in the matter. If after the publication of the names of candidates for Fellowship a certain number of members demand a poll, the Council had no option but to assent and take a poll of the General Body. It put the Institute to considerable expense, and it did a great deal more than that, because under the By-laws if a poll was demanded it was necessary that there should be a certain proportion of affirmative votes to negatives in order that the candidates should be elected. It could easily be understood that if voting-papers went out all over the country, a large number of members would say that they knew nothing about the candidates, and would not vote at all, so that if a poll was demanded the chances were almost ten to one that some of the candidates would be blackballed. No one felt more seriously than the Council the great responsibility which rested upon those who demanded a poll, on what he ventured to think were quite insufficient reasons. It had

been resolved in General Meeting of the Institute that up to the end of the present year the door was to be left open; and it was decided that until then facilities should be given to architects, many of whom had been in practice for a considerable number of years and could not be expected to come up for the examination—facilities were to be given to these men to join the Institute. He quite agreed with Mr. Woodward, after what had occurred, that it was very desirable that the time for closing the Fellowship should be extended to the end of next year in order that those who had suffered in the last poll should have another opportunity of entering. Whether a poll would be asked for and the same thing occur with regard to the election to take place next month he did not know, but he ventured to express the hope that those members who had practically lumped together in one body the people to be rejected—not only those who might have been only seven years in practice, but many older practitioners in the profession who had been for 20 years and even 30 years in practice, and who now wished to become Fellows of the Institute—would think twice, thrice, and oftener before they put the Institute to the expense and the detriment caused by asking for a poll for the candidates who were to come up for the election. With regard to the sum bequeathed to the Institute for "charitable purposes," he did not know that the "charitable purposes" attaching to the bequest would necessarily prevent the Institute from apportioning some of the money to purposes which might perhaps rather widely cover that description. He did not agree with Mr. Woodward that a conversation or a garden party was the most objectionable thing the Institute could arrange. He had found, and he was sure Mr. Woodward had also, the open-air conversations at the Botanical Gardens most delightful; and given a fine summer evening he thought nothing would be more congenial to the many foreign members of the Congress than to have such an evening at the Botanical Gardens. With regard to the report of the Practice Standing Committee as to the Institute constituting a committee to deal with matters of architects' charges, he agreed that if such a committee could be instituted with power to enforce its decisions, it would be a very great thing; but he was half afraid there would be no possibility of enforcing such a decision. There was, as members of the Institute were aware, a Committee of the Council on professional questions which often had matters of this sort submitted to it, and that Committee always endeavoured to take a broad line and give their advice to the best of their judgment; but he was by no means sure that the institution of such a committee as proposed to deal with such matters would really meet the case, because he did not see how its decisions could be enforced. If they could get any sort of sanction for it, it would be a good thing; but whether they could or not was a matter of opinion. There was one remark in the Report of the Auditors he agreed with. He should like even to go further than they recommended. He referred to their suggestion that there should be no entrance fee for Honorary Associates, and that their subscription should be reduced to the nominal sum of one guinea. He could not help thinking that the Institute was now in a sufficiently powerful position financially to dispense with subscriptions from Honorary Associates. To become an Honorary Associate of the Institute was really an honour both to the man who was admitted to membership and to the Institute who admitted him, and personally he did not think they ought to ask Honorary Associates, many of whom were men of eminence in other walks of life than their own, to pay a subscription at all. He thought it would probably add to the dignity and weight and standing of the Institute if they elected Honorary Associates purely on an honorary footing. With regard to the remarks that had fallen from Mr. Woodward and Mr. Hudson as to the officials of the Institute, he cordially

concurred. He was quite sure that it would be impossible for any body to have a more hardworking and honourable set of officers than the Institute had; and although nothing had been specially said on that point, he should like to ask the Meeting to pass a cordial vote of thanks to the Honorary Secretary, the Secretary, and all the members of the Staff for their excellent service and the hard work they had done for the Institute during the past year. No one who had not had experience on the Council could in the least tell what the work of the Institute was, and it would be, he thought, a pleasure to the officials to have that vote of thanks passed, and he had much pleasure in moving it.

Mr. C. H. BRODIE (F.) said he was glad Mr. Woodward had called attention to the paragraph referring to the large number of students remaining on the Register without proceeding to the Final Examination. He (Mr. Brodie) had spoken on that matter a good many Annual Meetings ago. It deserved the most serious attention of the Council, and he had no doubt that it received that serious attention; but he understood that at the Surveyors' Institution very particular care was taken to keep in touch with those men, and he ventured to suggest, if it was not already done, that they should adopt the lines followed in the Surveyors' Institution. The paragraph following that mentioned an exemption from the Preliminary Examination, and although it was not mentioned in the Report he should like to say that he had been very pleased to read that a certain exemption had been granted to students who took the four years' course at the Architectural Association. That course must be of enormous use to young men, and it was exceedingly wise for the Institute to recognise it. With reference to the paragraph about the District Surveyors he quite agreed with the remarks that had previously been made in that room, and with the action of the Council; but there was a very serious matter which was not referred to, and which could not be referred to in the Report; and that matter was this: he was given to understand, on quite reliable authority, that there were no fewer than eight District Surveyorships at a recent date unfilled; and with the death of their dear friend Woodthorpe there would be nine such vacancies. The County Council had appointed what they called temporary men to fill those places. He believed it was a fact that very few of those men held the certificate of the Institute, and therefore had no right whatever, except as a purely temporary expedient, to hold the position and execute the duties of District Surveyors. He believed the position to be absolutely illegal; and if the facts which had been stated to him were true, he felt that it was incumbent upon the Institute to point out to the London County Council in no uncertain terms that their action was against the well-being of architects and building owners throughout the County of London.

Mr. JOHN SLATER: And also against the law.

Mr. BRODIE, continuing: On the question of the increased widening of the Strand one read with great pleasure in that morning's papers that the President of the Royal Academy referred to the matter at the R.A. dinner on Saturday night; and he understood from his remarks that there was a deputation going from the Royal Academy to the London County Council. He hoped that if it was possible for the Institute to second the efforts of the Royal Academy, and for the Royal Academy to second the efforts of the Institute, the two bodies would work in unison on that matter. The London County Council By-laws with respect to drains were bad to a degree; and how they ever got into the Regulations of the Council he could not conceive. He would say but a few words upon the action of certain members of the Institute with reference to the last election of Fellows. He had said what he had to say at the last Business Meeting; and they knew that at that meeting a Committee was appointed, one of whose duties was to revise the voting-paper if that seemed

possible. That Committee, he believed, would lose no time in informing the Council of its decision. He merely mentioned the matter now so that the Council might expedite the matter; and if they could agree with the recommendations of that Committee that the voting-papers can and should be altered, the alteration should take place at once, before the issue of any voting-papers for the next election. There was no time to be lost in the matter. On the report of the Practice Committee, Mr. Woodward mentioned that the Institute Scale of Charges as published required to be altered. He was one of those asked to suggest alterations that should be made, and he went through the document with a view to suggesting alterations, but he found it an exceedingly difficult job. It was exceedingly difficult to decide what were the best words to use. He was quite sure the Practice Standing Committee, if Mr. Woodward could make those alterations as fluently and readily as he could talk, would receive his written communication with the greatest possible pleasure. With reference to the question of charging fees to the Honorary Associates, he thought if they were going to interfere with that matter at all it would be far wiser for the Institute to adopt Mr. Slater's suggestion than to charge such a small subscription as a guinea; because a guinea obviously, he thought, would not pay for the JOURNAL which those gentlemen no doubt received, and the postage thereon. If they were going to make fresh regulations it would be far better to do the thing well and handsomely—to drop the subscription altogether, and make the position a purely honorary one.

Mr. A. B. PLEMMER (F.), *Hon. Secretary of the Northern Architectural Association*, said that, as a provincial architect and Secretary of an Allied Society, he felt he would not be doing his duty that evening if he did not say a few words. He was one of those who had been very hardly hit by the last election—not personally, but as the Honorary Secretary of an Allied Society. He, in accordance with the wish of the Institute, had approached several of the leading architects in the North of England, men whom he believed would have been a credit to the Institute—men who were as good as, and many better than, any belonging to the Institute at the present time. He felt that the members by whose action those candidates were rejected from the Fellowship of the Institute had done the Institute a very great amount of injury. The question of the expense to the Institute was a very small one compared with the general injury that was done the Institute. Fortunately architects in the provinces did not blame the Council for what had occurred; and he believed many architects throughout the kingdom, had they known what was going to be the result of that election, would not have neglected to record their votes for the candidates. If the gentlemen responsible for the result had taken some reasonable course and blackballed men under a particular age—for example, men who had been only a few years in practice—it would not have mattered; but they rejected men of standing, men who would have been a credit to the Institute. He should like to say that, as an Hon. Secretary for one of the larger Associations in the kingdom, he knew perfectly well the enormous amount of work done in connection with an Allied Society by the officials of the Institute, and if they worked as hard in connection with all the Allied Societies, as he was sure they must do, the officials of the Institute were a credit to it.

Mr. MAX CLARKE (F.) said that as Mr. Slater's proposition had not been seconded, he would like most cordially to second it. On page 51 of the Report would be seen a small item "Brickwork Tests £101. 3s. 0d." Very few in that room knew the amount of labour the production of that book necessitated to at any rate two of the members of the Institute Staff. He unfortunately had had a good deal to do with it; and if the work he had done and the trouble he had taken bore any relation to the amount of work

which two of the Staff had had to put into it, he thought Mr. Slater's words were a very slight modicum of praise for the energy those gentlemen brought to bear on their work. Personally he was very much obliged to the Council for having published the book, for it would be useful, he thought, to both architects and engineers. Mr. Woodward covered so much ground annually in his remarks on the Report, that it was almost impossible to get in a word on a subject that he had not touched upon. With regard to the Congress, however, he would like to know whether the Council had estimated what it was going to cost. He saw that there was a sum of £450 down for the proposed garden party, but there was no reference to the other expenses of the Congress, which he thought would be enormous. He was afraid their estimated balance of £1,200 would be very largely drawn upon for the Congress. On the burning question of the election or rather non-election of candidates for the Fellowship, he would suggest to the Council that it might at any rate conduce to members' knowing something about the candidates if their age was stated in the voting-paper. Members, as he had observed, were apathetic. If they were not so, and if they followed the lead of the Council, the candidates admitted by the Council would be elected. He knew that many London members refrained from voting because they knew nothing about the candidates; consequently as they did not vote for them, the adverse votes counted in a higher ratio. He would like the Council seriously to consider whether it was not possible to insert the ages. A man who went into practice at one-and-twenty, and had completed his seven years when he was eight-and-twenty—he questioned very much whether that was the kind of man who should be admitted to the Fellowship. The Associates ought to be given some credit. Those young men who were slaving away at the Association night after night were doing it for the purpose of passing the Institute Examination; and they deserved a certain amount of credit when they did pass it. They very naturally objected, too, that a young man of thirty should be admitted to the Institute Fellowship without passing any examination at all. If the age of the candidate were inserted in the voting-paper, no one, he thought, would think of blackballing a man fairly advanced in years and well known as a reputable architect, because they would understand that things had changed since he was a young man. With regard to the revision of the Scale of Charges, he considered it a most dangerous thing. If the Scale of Charges was so continually being revised it would lose its prestige and would cease to be regarded as the practice or custom. The wording might be revised, but certainly not the essence of the document. A man with any business capacity, and who was not afraid of his clients, would be able to make his own arrangements as to charges. It was only the people who did not care to make a definite arrangement in the first place who fell back upon the Institute Scale of Charges and the Practice Committee and the Committee of the Council to find out, or try to find out, what they ought to charge, and whether they could get their fees from their clients without spending their money in a court of law. Those, he thought, were not the gentlemen the Institute should waste its time on.

The CHAIRMAN said he ought in the first place to put the motion, which had been proposed by Mr. Slater and seconded by Mr. Max Clarke, that the thanks of the Institute be given to the whole of the officials on the Staff for the admirable manner their duties had been performed and for the amount of work they had got through.

(The resolution was carried unanimously.)

Mr. G. H. FELLOWES PRYNNE (F.) asked leave to say a few words before the motion for the adoption of the Report was put. It had been quite delightful, he said, to hear Mr. Woodward go so thoroughly into the Report as he

did. There were one or two of his remarks which ought to be especially enforced. The exhibition of the students' drawings for so short a time was wholly inadequate. The drawings this year, which he had the honour and privilege of examining most carefully, were of exceptional merit; and it did one an immense deal of good going through them. The excellence of the draughtsmanship and the studious care shown by the work were deserving of the highest possible praise. The exhibition was worthy of thorough study, not only by students, but by the profession generally. With regard to the new County Council building, Mr. Slater had already answered Mr. Woodward's question. It would be remembered that designs for the Council Hall had appeared in one of the daily illustrated papers. It was an extremely difficult question. As a humble member of the Council, he could assure members that they had gone most carefully into the matter, and there was no sort of idea of appointing men solely from the Institute; their idea was that some of the best known men in the profession should be invited to take part in the competition. There was one matter that he wished to mention. As regards the vital question of registration which had been worrying them so long, he thought the present position of affairs was a matter of congratulation for the Institute. It had been a sort of skeleton's head between them for many years. But they had at last come to some basis upon which both sides could shake hands and work together for the good of the architectural profession. It had been suggested that the ages of candidates should be put on the voting-papers; every one of the Council felt very sore about the sad event which took place in the rejection of so many excellent men. He sympathised entirely with the last speaker in his view that the Associates might look twice at a young man before voting in his favour; but on the last balloting list there were so many well-known names of men who had done excellent work that it was a thousand pities that the chance of their entering the Institute as Fellows should be gone altogether. It was evident that they could not at their age, after twenty or thirty years' practice, enter for the Associates' examination. The idea of stating the age, he thought, might be objected to by some. He thought perhaps the number of years in practice might be put. Surely if a man had been ten, fifteen, or twenty years in practice, that ought to be enough if the Council had passed his drawings and found his other qualifications satisfactory. As regards the sum left to the Institute for charitable purposes, he thought that, with the claims of the Architects' Benevolent Society ever before them, it would not be very long before every penny of that sum would be needed.

The CHAIRMAN, in formally putting the motion, said that between Mr. Slater and Mr. Prynne many of the points raised during the discussion had been cleared up. All the comments on the Report he thought had been of an appreciative character, with one or two trifling exceptions. With regard to the result of the poll on the last occasion, when so many candidates for Fellowship were blackballed, the members who had spoken on that subject had the entire sympathy of the Council. The Council were anxious to do everything they could to prevent such a fiasco on a future occasion; but they were powerless to prevent it, and they must therefore fall back on the good sense of the voting members. As regards the £773, 12s. 10d. that was a bequest to the Institute. Miss Moore had had a life interest in the fund; she had just died, and the principal came into the possession of the interest. A good deal had been said about the Institute Scale of Charges. That, he thought, was a dangerous matter to interfere with, and should be only entered into after full consideration.

The motion for the adoption of the Report was then put and carried unanimously.



9, CONDUIT STREET, LONDON, W., 12th May 1906.

CHRONICLE

The President.

Members will be glad to learn that the President, Mr. John Belcher, A.R.A., has recovered from his long illness, and was able to preside at the Council Meeting last Monday afternoon. In answer to an inquiry at the Annual General Meeting in the evening, Mr. John Slater stated that the President had had most regretfully to give up the idea of taking the Chair at that meeting. The long sitting of the Council had fatigued him very much, and he felt that it would be wiser to go home. The President's place at the meeting was taken by Sir John Taylor, K.C.B., *Vice-President*.

Annual Elections: New Nominations.

The "House List" of members nominated to the various offices on the Council and Standing Committees was issued to members on the 21st ult. The following further nominations have been received conformably with By-law 30, and the names appear on the voting-papers issued to members on the date of the present number of the JOURNAL:—

AS MEMBERS OF COUNCIL.

ADAMS, MAURICE BINGHAM: nominated by Wm. M. Fawcett, M.A., F.S.A., Rowland Plunbe, Professor F. M. Simpson, W. E. Riley, Cole A. Adams, E. Swinfen Harris, E. M. Bruce-Vaughan, P. H. Tree, J. E. K. Cutts, *Fellows*.

MURRAY, JOHN: nominated by Thomas Henry Watson, E. Guy Dawber, R. Phené Spiers, F.S.A., Geo. H. Fellowes Prynne, James S. Gibson, And. N. Prentice, Sidney R. J. Smith, *Fellows*.

SCOTT, WILLIAM GILLIE: nominated by James S. Gibson, Alfred H. Hart, C. H. Brodie, Max Clarke, *Fellows*; C. E. Hutchinson, H. Hardwicke Langston, Harry W. Pye, *Associates*.

TILTMAN, ALFRED HESSELL: nominated by Professor Aitchison, R.A., Henry L. Florence, R. Phené Spiers, F.S.A., Wm. Flockhart, Sir Henry Tanner, I.S.O., John Murray, C. Harston, Henry Hall, Sidney R. J. Smith, Alfred Conder, Lacy W.

Ridge, Chas. Fitzroy Doll, Fred. W. Marks, Alex. R. Stenning, H. Percy Monckton, H. B. Garling, T. Taylor Scott, H. Phillips Fletcher, John Leeming, G. R. Crickmay, R. A. Briggs, Professor R. Elsey Smith, W. Hilton Nash, C. Lynam, M. J. Lansdell, Arthur Wells, Philip Henry Tree, *Fellows*; Thos. M. Rickman, Walter Millard, Walter L. Spiers, J. And. Minty, Arthur R. Mayston, *Associates*.

AS ASSOCIATE MEMBER OF COUNCIL.

YOUNG, ERNEST ALEXANDER: nominated by T. Taylor Scott, W. A. Longmore, A. Saxon Snell, W. J. Burrows, *Fellows*; A. Basil Cottam, Thomas Gildart Mansell, Thomas C. Yates, *Associates*.

AS MEMBERS OF THE SCIENCE STANDING COMMITTEE.

Fellows.

DICKSEE, BERNARD JOHN: nominated by Sir John Taylor, K.C.B., Edward A. Gruning, John Slater, And. N. Prentice, Wm. H. Atkin Berry, C. Harrison Townsend, W. A. Forsyth, Alfred W. S. Cross.

SEALES-WOOD, HERBERT DUNCAN: nominated by Alex. Graham, Sir John Taylor, K.C.B., John Slater, Wm. H. Atkin Berry, J. A. Gotch, C. Harrison Townsend, W. D. Caröe.

Associate Member.

YOUNG, ERNEST ALEXANDER: nominated by T. Taylor Scott, W. A. Longmore, A. Saxon Snell, W. J. Burrows, *Fellows*; A. Basil Cottam, Thomas Gildart Mansell, Thomas C. Yates, *Associates*.

THE EXAMINATIONS.

Colonial.

On the recommendation of the Board of Examiners, the Council have resolved to empower representative South African Societies to grant exemption to Candidates from the Preliminary Examination on presentation of certain certificates; the standard of such certificates to be previously approved by the Board of Examiners.

On the same recommendation, and in response to proposals made by architects practising in the South African Colonies, the Council have decided for the future to hold the Intermediate Examination in South Africa.

Exemptions from the Intermediate Examination.

The Council, on the recommendation of the Board of Examiners, have decided to grant exemption from the R.I.B.A. Intermediate Examination to those students of the Architectural Association who have passed through the four years' course of the Architectural Association Schools in a manner found satisfactory by the Board.

Exemptions from the Preliminary Examination.

On the recommendation of the Board of Examiners, the Council have resolved to accept the School or Leaving Certificate of the Oxford and Cambridge Schools Examination Board in lieu of the Preliminary Examination of the Institute, provided that such Certificate includes all the subjects of the latter Examination.

Special Election to Fellowship.

The Council at their meeting on Monday, the 7th inst., elected the following gentleman to Fellowship of the Institute under the proviso to By-law 9—viz.

PATRICK HILL THOMS, *President of the Dundee Institute of Architects*, of 46 Reform Street, Dundee.

Obituary: Edmund Woodthorpe and George Low.

Mr. Edmund Woodthorpe, M.A. Oxon., who died of acute pneumonia on the 3rd inst. at the age of forty-seven years, was elected Associate of the Institute in 1882, and Fellow in 1892. He had been for many years an active worker for the Institute, serving on the Board of Examiners and on the Practice Standing Committee, and for the last two years as a member of the Council. He held the appointment of District Surveyor for the Northern Division of the City of London.

Mr. ALEXANDER GRAHAM, F.S.A., *Hon. Secretary*, in making the announcement to the Meeting last Monday, said that Mr. Woodthorpe's name was familiar to them all. Most of them had experienced his sincerity and kindness of heart, and his agreeable manner in all his dealings with them in his official capacity as District Surveyor. Those who had come in contact with him always found him reasonable in his interpretation of the Building Act, and ready to assist in the solution of some of those mysterious clauses that were often difficult to comprehend. Mr. Woodthorpe had endeared himself to many of them by his goodness of nature and friendly actions. As a member of the Council he took an active part in the Institute work, and was always loyal to the Institute.—Mr. Graham, after a reference to the funeral arrangements and the memorial service to be held in the church of St. Lawrence Jewry on the 9th inst., went on to express the hope that many members of the Institute, especially those in the City of London, would attend the service in memory of their old friend and colleague.* In conclusion he asked the Meeting

to pass a resolution that a letter of sincere sympathy be sent to Mrs. Woodthorpe and the family upon the sad bereavement they had sustained, and expressing at the same time their appreciation of the late Edmund Woodthorpe as a worthy, kind-hearted man and a good colleague. The resolution was carried in silence.

The Hon. SECRETARY further announced the death of Mr. George Low, whose name, he said, was not so familiar to the present generation, as he had attained a very advanced age. Mr. Low was elected an Associate in 1856 and a Fellow in 1860. Some few amongst them had had transactions with Mr. Low, and had always found him a very pleasant man to deal with. At one time he had a large practice in the City of London, and made himself particularly active in the ward with which he was associated during a long career. On the motion of Mr. Graham the Meeting passed a resolution that a letter of sympathy be sent to the representative of the family—(Mr. William Ralph Low, an Associate of the Institute).

Mr. Wm. WOODWARD [F.] said he should like to add a few words to those which had fallen from Mr. Graham with reference to Mr. George Low, whose funeral it was his painful duty to attend last Saturday. He had known Mr. Low a great many years; and although he had not lately attended the meetings of the Institute, he took a great interest in them up to the very last, and always read the JOURNAL. In the course of conversation with him on many occasions he had heard some most entertaining anecdotes connected with members as far back as the sixties. The interest he took in the Institute lasted, he felt justified in saying, right up to the end of his eighty-second year. That was a lesson, he thought, they might all take to heart.

REVIEWS.

FIRE PROTECTION.

The New Fire Protection for London: Article in the "Nineteenth Century" for April by A. Maryon Watson.

It is to me always a pleasure to find members of the R.I.B.A.—especially the younger members—evinced a taste for that literary work which should form no inconsiderable a portion of the architect's education. The school of architects of the days of Smirke, Donaldson, Pennethorne, Cockerell, Kerr, and others one could name, attached more importance to *style* of writing than, I am afraid, many of the modern school would care to acknowledge, and instances of the accuracy of my statement may be found in the earlier contributions to the *Dictionary of Architecture* of the Architectural Publication Society,

* At the memorial service held in the Church of St. Lawrence Jewry on Wednesday, the 9th inst., a large number of members were present, the Institute being officially represented by the Secretary. The funeral took place at Headley, Liphook.

the volumes of which are in the Institute Library. Not only should good literary style be cultivated for its own sake, but I know quite well that, in many instances, clearness of diction, intelligent and intelligible form in reports upon professional subjects, have very great weight when brought before clients for consideration and determination upon, perhaps, serious matters of expenditure, and upon the furtherance or abandonment of enterprising schemes. I am constrained to think that tolerably correct "orthography" may be relied upon in all candidates for the architectural profession, but I am by no means equally satisfied that their "caligraphy" would be found to be quite so acceptable. Young architects little know what opportunities they lose by unreadable letters and signatures, or what work passes into other hands because of looseness of expression or indefiniteness of real meaning. I therefore respond with much pleasure to the invitation to write a note upon Mr. A. Maryon Watson's contribution to the April number of the *Nineteenth Century*. Mr. Watson is one of the younger Associate members of the Institute, and the son of a respected Fellow of very long standing. Some years ago a contribution of mine appeared in the *Nineteenth Century*, and I feel quite sure that the honour I felt had been conferred upon me is now as keenly enjoyed by Mr. Maryon Watson upon the insertion of his article in that important periodical.

We are all now tolerably familiar with the Fire Clauses of the London Building Acts (Amendment) Act 1905, but Mr. Watson has so written his article that it will be of service to the lay as well as to the professional mind. It is too late to recall the origin of this Act, but, personally, I do not mind repeating that the laches of the Fire Brigade of the London County Council itself, in connection with the dreadful fire in Queen Victoria Street in June 1902, had much to do with penalising Londoners in the drastic way which will be more fully realised after January 1907, when "existing" high buildings will come within the purview of Spring Gardens. Mr. Watson describes in a thoroughly practical manner the whole effect of the Act upon new and existing buildings, and his references to some of the evidence brought before the Parliamentary Committee fully illustrate the difficulties attending the carrying of the Bill. Of course the promoters of the Bill lost no opportunity in conjuring up the frightful risks every dweller in London ran every moment of his life of being burnt to death; and it is rather singular that these blood-curdling stories should have synchronised with the aforesaid fire in Queen Victoria Street; that before June 9, 1902, buildings were certified to be safe if sixty feet high, but on June 10, 1902, they were decidedly unsafe if more than fifty feet high. In "factories" forty persons were all right prior to June 10, 1902, but after that date twenty persons

were in imminent risk of being roasted to death in the same buildings. There is much virtue in the blessed word "Mesopotamia," but not half the value attaches to it as to "smoke-logged" at Spring Gardens; in arguing fire cases there, one feels absolutely annihilated when confronted with the splendid compound epithet "smoke-logged."

Mr. Watson quotes the useful table of buildings affected by the Act in certain streets, which was produced by Mr. Riley in the course of his evidence, which table shows that "for the 208 streets selected, the average number of buildings whose top floor is over fifty feet and under sixty feet is 5.46 in each street, the average number of buildings over sixty feet is 1.41 in each street, whilst the average number of high buildings actually certified as fit for occupation under the Act of 1894 is but 0.23 in each street." So that, as Mr. Watson points out, on the score of height alone, "it will be evident that Parliament has by the new Act sanctioned interference with a very large number of buildings which were outside the scope of the Act of 1894," and it must also be borne in mind that after January 1, 1907, the operation of the Act comes into force with regard to "existing buildings," and it will affect many fine new buildings not long ago erected, and quite up to date, but, as it may turn out, not up to the date of January 2, 1907.

Mr. Watson devotes much useful criticism to the "twenty-person buildings" and to the "projecting shops," as also to the important questions which will arise as regards "change of user" and other details of the Act which have not yet been fully grasped by those who will have to expend large sums of money, and suffer much dislocation of business in responding to its provisions. However, it is an ill wind which blows nobody any good, and, as Mr. Watson remarks, just now there is room for employment of those concerned in building operations; and although I may personally think that all that is needed could have been supplied to a large extent by more enlightened efficiency on the part of the London County Council Fire Brigade itself, it is evident that a greater number of persons think differently, and hence the new Act under its "non-informing title" of the London Building Acts Amendment Act 1905.

WM. WOODWARD [F.].

ALLIED SOCIETIES.

Devon and Exeter Society.

The Annual Report of the Devon and Exeter Architectural Society states that members have increased by eight during the year, and that the roll now stands as follows:—Members, 50; Associate Members, 13; Associates, 81.

The Council express regret that there has been no response from the younger members of the

profession in connection with the London Architectural Association whereby students of the Devon and Exeter Architectural Society may join the School of Design, and therefore the Book Prize offered by the Society has not been awarded. The Council again regret the absence of enthusiasm among the Associates, as shown by the rare attendance of the younger members at the meetings and also by the lack of competition for the prizes offered by the Society.—The Council have dealt with several matters of importance to the profession, including a protest to the Dartmouth Town Council against the unfair conditions issued by them in the competition for their municipal buildings, and, in consequence of not receiving a satisfactory reply, the members of this Society were requested to abstain from taking part in the competition. The Society's suggested amendments to the Building By-laws have again been considered and reported upon by the Borough Engineer, and are now receiving the attention of the Special Works Committee.

Glasgow Institute.

The Council of the Glasgow Institute of Architects call attention in their Annual Report just issued to the facilities for study which are available in the recently established "Glasgow School of Architecture" conducted by the Technical College and the School of Art, and they urge that attendance at these classes should be made a condition of pupilage in the offices of all members of the Institute. The Council recommend Day Classes in place of Evening Classes where possible. The *Diploma Course* in the School of Architecture ensures a comprehensive architectural training, and may be taken in one of the following alternatives, which are placed in order of preference:—(1) Full Day Classes (say for four years) with attendance in an office during the vacations; (2) Full Day Classes (say for two years) with office attendance during the vacations; then Evening Classes (say three years) with attendance in the office; (3) Day Classes for some of the courses (say for three afternoons, or during the mornings, or in any other approved combination); Evening Classes for the others; (4) Evening Classes for six or seven years. The *Certificate Course*, although of lesser requirement and arranged for evening students, will yet provide a fairly sufficient education, and will probably require from four to six sessions of evening attendance.

Arrangements are in active preparation for amalgamating the Glasgow Architectural Association with the Glasgow Institute.

The Council have issued a circular calling attention to the undue proportion of unpaid apprentices employed in many architectural offices, and requesting members to adhere, as far as possible, to the practice of employing one apprentice only to each draughtsman.

The Council for the ensuing year has been elected as follows:—Messrs. A. N. Paterson [A.], John Keppie [F.], H. K. Bromhead [F.], James Lindsay [A.], T. L. Watson [F.], Alexander McGibbon [A.], Andrew Balfour, Charles Gourlay [A.], Thomas Baird, jun., R. D. Sandilands, Alexander Skirving, Robert Miller, John B. Wilson [A.], and H. E. Clifford. Mr. James M. Monro, [F.] is the new President, and Mr. George Bell Vice-President.

The Bristol Society of Architects.

The following are the Officers and Council for the Session 1906-7:—*President*, Mr. H. Dare Bryan [F.]; *Vice-Presidents*, Mr. W. L. Bernard [F.], Mr. G. H. Oatley [F.]; *Hon. Sec.* Mr. Richard C. James [A.]. *Council*: Messrs. M. A. Green [A.], J. H. La Trobe [F.], T. Nicholson, W. S. Skinner, Frank Wills [F.], J. F. Wood [A.]. *Associate Members of Council*: Mr. G. C. Lawrence [A.], T. H. Weston [A.].

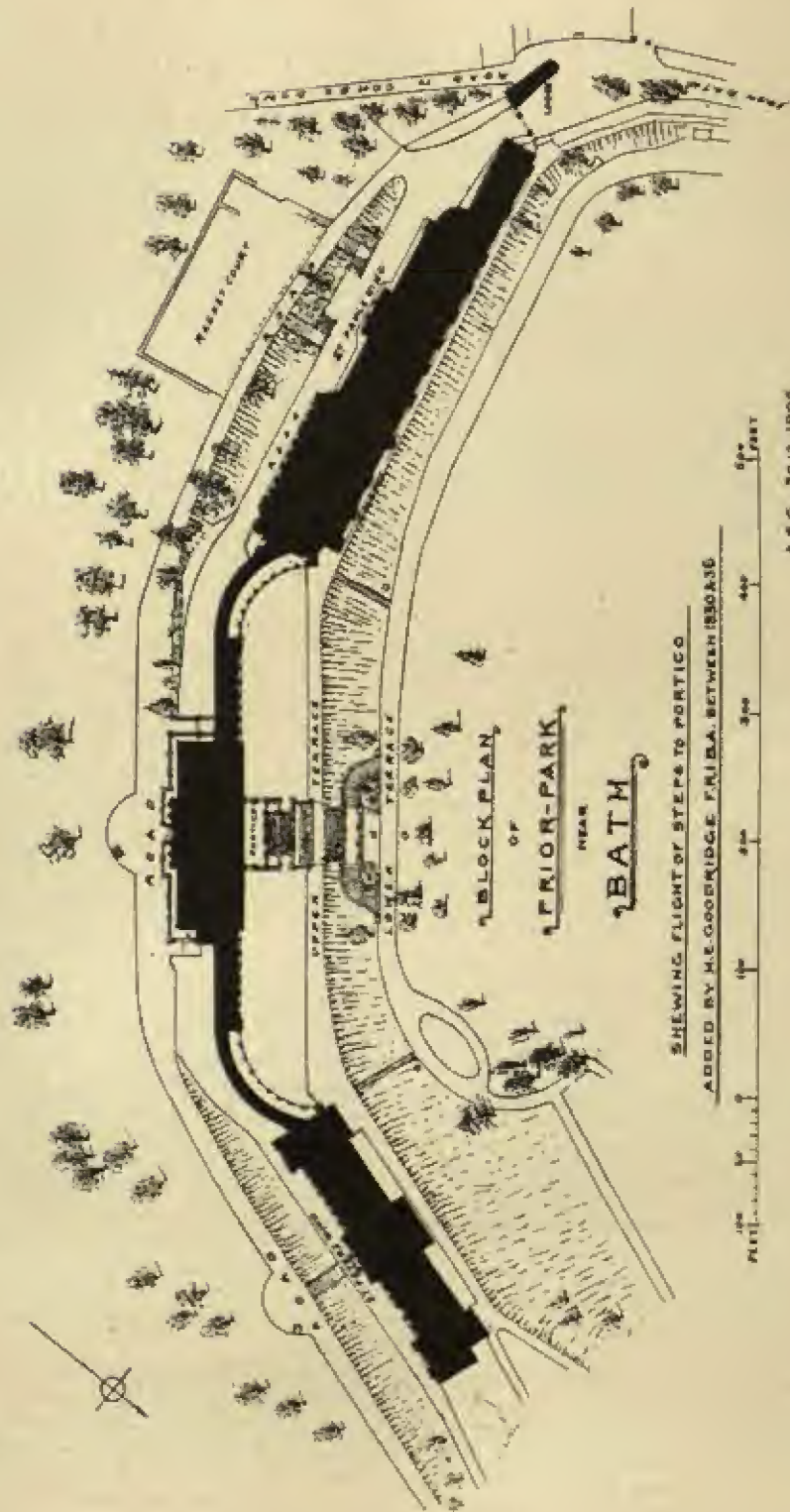
PRIOR PARK COLLEGE, BATH.

Steps to Portico.

It was brought to my mind, on reading some public references to the central flight of steps to the portico at Prior Park, that my father, who was about ten years architect to the College, and carried out a good deal of work there, had often spoken of this flight of steps to me in after years.

On referring to the drawings I found the working drawing showing the lower part, from the lower to the upper terrace, set out and figured for the builder. I saw in Wood's design—for he was the architect of the building—that there was no front flight of steps to the portico. I also discovered by a drawing that was taken of the building in 1880 that there were no steps in front at that time. My father was architect there from about 1827 till after the fire in 1836, and I found a drawing signed by him dated 1828. After carefully examining and comparing the drawings of the flight, and the various alterations that had been made on them in the arrangement of the upper portion, it was clear that the upper part was first carried out by him, and afterwards the lower part, with the graceful sweeps, right and left, on to the lower terrace. This also is allowed by those now occupying the building.

It is worthy of notice how well the whole flight is preserved unbroken by the upper terrace, which crosses it in the middle, by treating it as a paved landing, and not leaving the gravel path, which might have been the severance of it into two flights. There is a small landing about 4 feet 2 inches wide, nine steps up from it, leaving twenty-two steps to the portico, and in all sixty-eight steps from the lower terrace.



A.S.G. 30.12.1906



PRIOR PARK COLLEGE, BATH : LOOKING FROM UPPER TERRACE WESTWARDS.



PRIOR PARK COLLEGE, BATH : ON LOWER TERRACE, SHOWING SWEEP OF STEPS AT BOTTOM.

From every point of view it is exceptionally pleasing, but it is the lower flight, with the double sweep at the bottom, which gives the character so admired. Its treatment and suitability to the site and building must strike anyone.

The widest part of the flight is about 50 feet, and the width of each sweep at the bottom is about 30 feet. The treads are wide in the circular sweeps—8 feet to 3 feet 6 inches at the wide ends, and 1 foot 4 inches to 1 foot 9 inches at the narrow ends. In the straight part the treads are 1 foot 9 inches, but some in the upper portion 1 foot 8 inches. The risers are 6½ inches throughout.

There are two statues of females on the pedestals immediately opposite the second column in front of portico, and four vases on the pedestals to the landing at the top of the double sweeps, eighteen steps up, about 8 feet 6 inches wide. The projection of the hexastyle portico is two intercolumniations, or about 18 feet inner dimension, and the columns a little over 3 feet in diameter. It was intended by my father's drawings to have had statues on the other pedestals.

The architecture, the position, and the fine view, with the deep wooded dell, the Palladian bridge and the lake immediately in the foreground below, the splendid view of the city in the valley, and the distant hills beyond, render the Park one of the most beautiful spots in the kingdom. The stonework externally is in bad condition in many parts, which shows that though Prior Park was built with a view of making Bath stone better known, the knowledge of the stone, and how to use it, was but very imperfectly known then compared with what it is now. The suitable beds, and the setting it in its own bed in the building, must have been overlooked.

My father designed a domed chapel to be erected at the back of the central building, but this was not carried out. The late Mr. Scoles, a Fellow of the Institute, was the architect of the present one in St. Paul's wing.

I am indebted to Mr. Mowbray A. Green [A.] for the accompanying photos, which he kindly took specially for me; but a number of excellent views were brought out in *Country Life*, 18th January 1900.

ALFRED S. GOODRIDGE [A.].

MINUTES. XIII.

SPECIAL GENERAL MEETING.

At a Special General Meeting, convened by the Council under By-law 60, held Monday, 7th May 1906, at 8 p.m. Present: Sir John Taylor, K.C.B., *Vice-President*, in the Chair, 24 Fellows (including 7 members of the Council) and 22 Associates: the Chairman brought up a recom-

mendation from the Council in the terms of the resolution printed below, and having pointed out that the retention of office by the President and Council during the period in question was necessary and desirable in the interests of the forthcoming Congress, Mr. C. Harrison Townsend [F.] moved, Mr. E. W. Hudson [A.] seconded, and it was unanimously

Resolved, That the President and Members of the Council for the current Session do retain office until the conclusion of the VIIIth International Congress of Architects to be held in July, and that, in order to give legal effect to this resolution, the provisions of By-law 30 affected thereby be temporarily suspended.

The Special General Meeting then terminated.

ANNUAL GENERAL MEETING.

At the Seventy-second Annual General Meeting (being the Thirteenth General Meeting of the Session 1905-06) held Monday, 7th May 1906, following the Special General Meeting above minuted and similarly constituted, the Minutes of the Meeting held 23rd April [p. 349] were taken as read and signed as correct.

The Hon. Secretary announced the decease of Edmund Woodthorpe, M.A., *Member of Council*, and, having moved, it was thereupon resolved, that a letter be addressed from the Institute sympathising with the widow and family in their great bereavement, and expressing at the same time the affection and esteem of members for their late colleague and appreciation of his merits and high qualities.

The decease was also announced of George Low, elected *Associate* 1856, *Fellow* 1860, and it was resolved that a letter of regret and condolence be sent to the representative of the family of the deceased.

The following members attending for the first time since their election were formally admitted and signed the register—viz. Ernest William Marshall and Edward Prioleau Warren, F.S.A., *Fellows*, and Dugald Alexander Shaw, *Associate*.

The Report of the Council for the official year 1905-06, which had been previously circulated among members in the United Kingdom, having been formally presented and taken as read, was moved for adoption by the Chairman, and seconded by Mr. John Slater [F.]. The Report was then discussed, and the Meeting unanimously

Resolved, That the Report of the Council for the official year 1905-06 be approved and adopted.

On the motion of Mr. John Slater [F.], seconded by Mr. Max Clarke [A.], it was resolved that the thanks of the Institute be accorded the Hon. Secretary, the Secretary, and all the members of the Staff for the excellence of their service and their hard work for the Institute during the past year.

A vote of thanks was passed to Messrs. Sydney Perks [F.] and W. Arthur Webb [A.] for their services as Hon. Auditors of the year's accounts; and the same gentlemen were nominated to serve as Hon. Auditors for the ensuing year of office.

The Meeting authorised the Council to appoint scrutineers to direct the election of the Officers, Council, and Standing Committees for the year of office 1906-07 and to report the result thereof to the Business General Meeting of the 11th June.

A vote of thanks was passed to the Statutory Board of Examiners, and the members of the Board were re-appointed to the office, with the addition of Messrs. W. Hilton Nash [F.] and W. Henry White [F.].

The proceedings then closed, and the Meeting separated at 9.30.



SOME OBSERVATIONS ON THE REPORT OF THE ROYAL COMMISSION
ON LONDON TRAFFIC.

WITH SPECIAL REFERENCE TO THE PROPOSED FORMATION OF NEW
THOROUGHFARES.

By PAUL WATERHOUSE, M.A. Oxon. [F.].

Read before the Royal Institute of British Architects, Monday, 21st May 1906.

THE Report of the Traffic Commission deals exhaustively with many aspects of a very large subject—the difficulty of locomotion in London.

As Londoners we have an interest and a concern in the entire problem; but it is not my intention on this occasion to deal with more than one side of so vast a theme. When I received the invitation of our Council to produce a Paper on the Commission's Report I ventured to assume that what was required of me was an architect's view of the architectural aspects of a subject which, though not strictly architectural, has a strong bearing on the architectural future, and for that matter on the architectural past, of our metropolis.

My attention, as you will assume, has centred chiefly on the proposal of the Commission that the traffic congestion of London should be relieved by certain alterations of existing streets, and notably by the construction of two new thoroughfares: one traversing the town from north to south, the other linking Bayswater with Whitechapel. The architectural problems connected with these new streets might, I think, be briefly put in the form of three questions, the discussion of which will form the substance of the Paper which I am offering for your consideration, not by any means as a final answer to these questions, but merely as the setting forth of a particular view of the difficulties of the case and of certain possible solutions.

The questions are: (1) Granting the necessity for two new thoroughfares more or less in the localities selected by the Commission, what attempt, if any, should be made to control the architectural treatment of the new buildings which will form their frontages?

(2) What relations should these new roads bear to existing roads, streets, and squares? and

(3) What shall be their effect as regards the destruction and retention of existing buildings of value or interest?

It will be obvious as we work into this subject that my three questions cannot be treated separately or in order. We are dealing with the putting of new wine into old bottles (always a difficult and dangerous business), and there is hardly a single enigma in this most enigmatic subject which does not involve the raising and if possible the answering of all three of my questions simultaneously. Again, every portion of the problem, even if it be viewed from the





purely utilitarian point of view, presents in its settlement a choice of evils—a choice so embarrassing that were we not certain of the evils of the *status quo*, we should with one accord cry out that it were better to leave things as they are than to attempt to face so great a conflict of interests which in reality are not utilitarian only but supremely æsthetic and supremely social. We must indeed set out on this question not with the high and fervent hope of turning our old London into some new perfection—too much newness would, in fact, be to most of us a bar to perfection—we can only hope to stumble on some compromise which shall, while securing improved locomotion, add a certain dignity to uncomely places, and steal as little as possible of our pleasure in things old and long loved.

May I at this point make a grateful acknowledgment? I am, I believe, entitled to call myself a Londoner; but I felt from the moment that I began seriously to enter into the subject of this Paper that I should do well to summon the assistance and collaboration of some one whose knowledge of London buildings was more extensive than my own, and I have felt myself fortunate in having at my elbow the help of Mr. F. Herbert Mansford, a man who has lived from infancy not merely in London, but for many years in the heart of the city, and whose knowledge of and interest in the streets, houses, and churches of the metropolis are both intimate and enthusiastic. In the preparation of my illustrations and in the working out of the suggestions and criticisms which I am about to lay before you, his assistance has been of the greatest possible value.

Perhaps we shall do well at this stage to set before us the Commission's plan of the proposed new streets [Illustration No. I.]. It is fair to observe that the Commissioners, who adopt these streets as part of the recommendation of their advisory board, put forward the plan with a distinct reservation. "The precise route," says the Report, "which these avenues should follow is not definitely fixed, and would have to be laid out when the time for construction comes."

The first part of this sentence not only leaves us free to express criticism on the lines of route suggested, but even seems to invite some suggestions as to improvement. The second clause, one may remark in passing, is a dangerous one; it savours too much of that old and evil spirit which has led in the past to haphazard street planning, to ungainly intersections, and generally to costly and abortive achievements in which the waste of money has been only equalled by the absence of art. Why, when at last an attempt has been made to apply forethought to this ancient and vital problem, should we admit that anything so important as the line of the largest pair of streets in London can be put off till "the time for construction comes"? One word more before we look into the details of the Commissioners' plan. The impression that a reader of the Blue-book derives from its perusal is that the Commissioners are tramway mad. This is not wholly their own fault. Tramways, it is true, seem to permeate every portion of their deliberations, and to affect all their decisions; but we must remember that these tramways were distinctly set before the Commission as a dominant feature in the problem. In fact the terms of the inquiry with which the thirteen Commissioners were charged by their Sovereign are as follows: they were to report—

(a) As to the measures which the Commission deem most effectual for the improvement of locomotion and transport by the development and interconnection of railways and tramways on or below the surface; by increasing the facilities for other forms of mechanical locomotion; by better provision for the organisation and regulation of vehicular and pedestrian traffic or otherwise.

(b) As to the desirability of establishing some authority and tribunal to which all schemes of railway or tramway construction of a local character should be referred, and the powers which it would be advisable to confer on such a body.

Now the Commission was issued in February 1903, and the Commissioners signed their Report in June 1905. The motor omnibus, by this time familiar to our eyes, was perhaps scarcely a practical factor in street locomotion at the earlier date; and though we may feel considerable astonishment that a commission of traffic experts should pay such little heed to this important invention as merely to say of it what they write in clause 100 of their Report, it is certainly a fact that the eleven months which have passed since the Report was framed have supplied evidence of the efficacy and commercial success of the motor omnibus which was not wholly available a year ago, and which would, if the Commissioners were reporting to-day, assuredly reverse the decision that "tramways will continue to be the most efficient and the cheapest means of street conveyance."

This is not the place in which to discuss a question of locomotion, which for that matter has been well handled elsewhere; I merely allude to it as affecting in two points our own architectural problem. In the first place we shall have certain objections to raise against the direction and position chosen for portions of the new avenues, objections which, unless circumstances had changed since the Report was framed, would have been at once met by the rejoinder that the Commissioners' choice as to position and direction was regulated by the location of existing lines of tramway. Under the altered conditions our criticisms and suggestions may have added weight. Secondly, the width recommended for the new main avenues, viz. 140 feet, is obviously an outcome of the proposal that, in addition to underground tramways or railways, each avenue should be encumbered—I can use no other word—with four lines of surface tramways. It is possible that if the surface lines were given up or adopted on a less extensive scale a less width, say 100 feet, would be acceptable. Great width in streets is not an unmixed advantage, either from a practical or from an æsthetic point of view.

And now to return to the Commissioners' plan. As issued with the Report its intentions are not very clear. Town maps, as this audience knows, are necessarily of two kinds—those in which everything is drawn to scale, and those on which for purposes of additional clearness for special purposes the width of the roads and streets is exaggerated; in fact, drawn out of scale. The map of which the Commissioners have made use is one of the latter kind; it is therefore evident that in order to give reasonable attention to the considerations with which we are here concerned we must transfer the problem to a survey which is in all respects drawn strictly to scale. This is, in fact, what I have done, and I present for your consideration not the Commissioners' authentic plan, but my own interpretation, drawn to true scale, of the Commissioners' intentions.

It will be observed that the west-to-east avenue is intended to strike north-eastward from Hyde Park at a point adjoining Victoria Gate, forming at that point a continuation of the Bayswater Road, which it is intended to widen all the way from Shepherd's Bush Station. Without wishing to dwell on minor difficulties at the outset of this route, I would remark (on a purely unarchitectural point) that an oblique junction in two very important thoroughfares produces great difficulties to drivers—difficulties which can be experienced any day by anyone who cares to ride a cycle westward past Apsley House. (A reference to Illustration II. will show how by a slight deviation this can be overcome.)

I here mention, but I do not press, the suggestion that if the new avenue were started further west it might adopt, perhaps without alteration of width, the line of Lancaster Gate. No special obstacles beset the route for some distance beyond the start except the necessity for deciding a knotty problem—which will need to be faced in many sections of these new avenues—whether in adopting the line of an existing street the widening should be effected by the abolition of the existing buildings on both sides, or by the pulling down of one side only,

leaving the remaining frontage to form the building line of the new street. This question will generally be answered by the character of the existing buildings, and in the case of Connaught Street, which is the first with which we have to deal, I am tempted to recommend the destruction of both sides, so that Hyde Park Square, which is not greatly in excess of the required width, may indicate the axis of the first straight length. At Connaught Square one would appropriate the north portion of the garden, leaving the south of the square intact; and in Portman and Manchester Squares the new street would follow respectively the north and south sides. All goes fairly well till we get to Langham Place, the junction of Regent Street and Portland Place, where the first test of conscience for architects begins. What is to happen to All Souls' Church, which lies fair in the line of route? I am very fully aware that many good judges of architecture would say, "Down with it." For my own part I have an affection for its unusual yet familiar tower, and could bear to see it stranded upon an island round which the traffic should circle [Illustration IV., p. 380]. The Queen's Hall would have to go, it is true, but the loss to architecture is one from which we should recover—the loss to music is one that would easily be met by the erection of a new hall, and the gain to traffic would be immense. Concert nights there are a terror to the police. The formation of a circular roadway round the church would give opportunity for the change of direction which for two reasons I should like to see introduced at this point. In the first place, the rapacious avenue, having blasted the fame of Nash, was heading for Middlesex Hospital, and would have bisected and vivisected it, before proceeding to dash across Tottenham Court Road and take Bloomsbury askew, an act of geometrical indelicacy which the rectangular propriety of the district would certainly resent.

Let me say a word here on the general subject of direction. Straightness—unswerving aim from point to point—is in itself a desirable quality in our new streets. It makes obviously for speed; it makes also for economy if the line of direction runs parallel to the existing streets among which the new streets run. That a bit of straight street has its own elements of beauty we must admit. I hope that there will be many straight stretches in these new avenues when we get them. But there are beauties too in well-arranged curves and bends which where they occur naturally as outcome of the necessities of the case we shall not merely tolerate but cherish. And even a change of axis introduced without the intervention of a curve may be necessary, and need not be ugly. But there are two rules which I think we can safely make. One is not to pass the front or flank of any important public building obliquely if it can possibly be helped; and, secondly, not to cut obliquely across the general trend of street plan in any district unless the district is one of inconsiderable streets, or unless the necessity of getting from place to place diagonally is an essential necessity. We are now approaching an incident which exemplifies these points. The Commissioners' suggestion for negotiating Russell Square is at least awkward; so also is the destruction they would work by ploughing at a very acute angle through the intervening streets. Apart from the wanton cost of such "cutting on the bias," the process results in the formation of a host of those sharp-nosed corner lots which are the disgrace of London already. Bloomsbury, to put the matter clearly, is not square with Marylebone. We have got to "tack" somehow before we get to Russell Square, and what is more, if we do so tack, we have a chance of parading with some dignity past the new north front (as yet unborn) of the British Museum. Let us leave Bedford Square untouched and aim as nearly as circumstances permit for the centre of Russell Square. We shall thus pass parallel to the Museum, and give it incidentally the opportunity of standing back from the road with at least some degree of retirement.* The process to which I refer as "tacking," whether it be accomplished by a curve or by mere

* On my large scale plan I have indicated the prolongation of Torrington Square already, I believe, contemplated by the Duke of Bedford.

inclination, should be performed among property of the less costly kind and among streets where the obliquity would not be unduly disastrous. All Souls' Church being the first important point at which I offer for consideration a route alternative to that of the Commission, I may here draw attention to the fact that, while indicating the Commissioners' avenues by a thick black line, I emphasise my own suggestions by blacking in the houses, whether old or new, which would form the new frontages. [See Illustrations II. and III.]

Shall I observe that, in passing through East Marylebone, I have not forgotten the claims of the churches of St. Andrew* and All Saints? The avenue, it seems, can glide between them. Also it would, if my revised route were adopted, cross Berners Street so nearly at right angles as to offer no undue disregard to the frontage of the Middlesex Hospital.

By this time some one will, I am sure, have resolved to attack both the Commissioners and me on the subject of the reckless absorption of square gardens, of which we have already, in imagination, passed through five. My defence is ready. In the first place, the loss of air-space caused by such intrusion will be *nil*; we are occupying the ground we absorb not by inhabited buildings, but by houseless space, and in any case the avenues themselves, where they pass through places other than squares, will be substantial additions to the breathing ducts of London. Secondly, I propose, as you will observe, that at certain points in the routes new open spaces should be formed, some of which might compensate the only persons who would have a real grievance—the key-holders of the semi-private square gardens.

I would also urge, in defence, that to pass through two such regions as Marylebone and Bloomsbury without invading a certain number of squares is literally impossible. My suggestion, therefore, for a deviation in some portions of the routes does not desecrate the squares any more than would be the case if the scheme of the Commissioners were to be adopted without any modification.

We have now got back to the Commissioners' line of march, and have travelled through Russell Square, about which I have more to say later on. With your permission, we will consider ourselves opposite the Foundling Hospital, past which again I insist on going parallel (though the Commissioners are, at least, very uncertain on this point), and we are rapidly approaching contact with the great north and south avenue, which is, to my mind, the feature of the Commissioners' scheme which most lays itself open to friendly criticism. If we assume, for the moment, that the official lines are accepted, then I would point out that the abrupt changes of level which characterise Mount Pleasant lend themselves admirably to what is undoubtedly desirable at the intersection of two such gigantic roads, namely an "over-and-under" or viaduct treatment; and the road to go under in this case is, I think, that running east and west.

Of the rest of the route through Clerkenwell I have not very much to say. That the new Post Office Buildings should be passed at an oblique angle is, I fear, inevitable. Again, we must be careful of St. John's Church and of the dignified parish church of St. James. Careful, again, of the Charterhouse, for the projected line of march comes dangerously near a mutilation of them all. There is, however, at the eastern end of this avenue, a problem which, in the deliberations of the Commissioners, has hardly received the attention it deserves. The objective towards which the Commissioners are working at this point is, of course, trams in the first instance—the trams of Whitechapel Road and the trams of Commercial Road; but they are very properly intent, at the same time, on picking up *en route* that gigantic tidal wave of double traffic which is concentrated at the two contiguous stations of Liverpool Street and Broad Street. But the cost at which this would be done appears to me unnecessarily

* It is not an architecture that I save St. Andrew's.

large. The plunge through the Finsbury district, cutting through Finsbury Pavement House and the site of the displaced Roman Catholic church, involves the destruction of a mass of very costly new buildings and the mutilation of an attractive formation of frontage—the curve of Finsbury Circus—which seem likely to result in a very heavy expenditure, not sufficiently balanced by compensating advantages. Is it not at least worth while to suggest that the avenue, instead of passing along the south of the two stations, should cross the rails at a point north of the station buildings, where a road bridge already exists? If this proposal were adopted, the avenue would connect with Whitechapel Road and Commercial Road at the same point as intended by the Commission; but it would fall in from a more northerly direction, and would face the end of Leman Street.

We are not primarily concerned with the *traffic* problem here, but it may be remarked that my alternative suggestion, so far from hindering traffic, would probably be of great advantage. The traffic to and from Liverpool Street Station will necessarily continue to be largely in the direction of the Bank—a line of traffic which would be hindered rather than helped by being *crossed* at the entrance of the station by the new avenue.

It is of the north and south avenue that I wish to speak with the greater urgency. Not that I am urgent about its northern end. We are, perhaps, most of us indifferent to the architectural events which occur north of the Pentonville Road. Whether the Caledonian Road should be widened on the east side or on the west side, or on both sides, is not an architectural question that presses. Except, indeed, that we may offer the suggestion that a destruction on both sides offers the chance of improvement, neither frontage being at present worthy to stand unashamed in a street wider than Portland Place. The new Baths and Washhouses are, it is true, some bar to widening on the west side; and though Pentonville Prison stands well back on the east side, there is, unhappily, a new block just north of the prison that might prove a difficulty. The Pentonville Road could, owing to existing gradients, be carried as a viaduct over the new road. I mention these factors in passing, only to conclude eventually that the entire route should be changed. As one follows the proposed course of this new road south of the Pentonville Road, one wonders at its choice of locality, until it is realised that the true secret of the whole manœuvre is, once more, trams. If one grants that trams are the only means of cheap locomotion, the dead end of the Gray's Inn Road trams at Holborn certainly becomes a blot on the traffic system; and, looking at the matter from this point of view, there is much to excuse, in theory at least, the line of route suggested, even though it places half a mile of new avenue between the northern part of Gray's Inn Road and King's Cross Road—two thoroughly efficient thoroughfares blocked, not by their own, but by cross traffic. It is south of Theobald's Road that the difficulties thicken. The first difficulty is how to widen Gray's Inn Road. No man of right feeling would consent to its being widened on the Gray's Inn side. It must therefore, it seems, be widened on the east. This proceeding may be simplified by the fact that there is a second-hand Town Hall for sale on the east side; but it goes far to increase the obstacles that lie in our way when we get to Holborn—obstacles so determined and so obdurate that I am bold enough, as I have already hinted, to advocate a complete change of policy as regards the north and south route.

The object which meets the view of the southward passenger as he alights from his tramcar in Gray's Inn Road is nothing less than the gabled front of Staple Inn. A continuation of Gray's Inn Road towards the river would mean a destruction of that last relic of old London's countenance, such a destruction as I, for one, would withstand to the uttermost.* To burrow beneath it would, no doubt, be possible, though difficult, and on emerging from

* And behind Staple Inn lies another obstacle, the Patent Office.



THE EAST AND WEST AVENUE

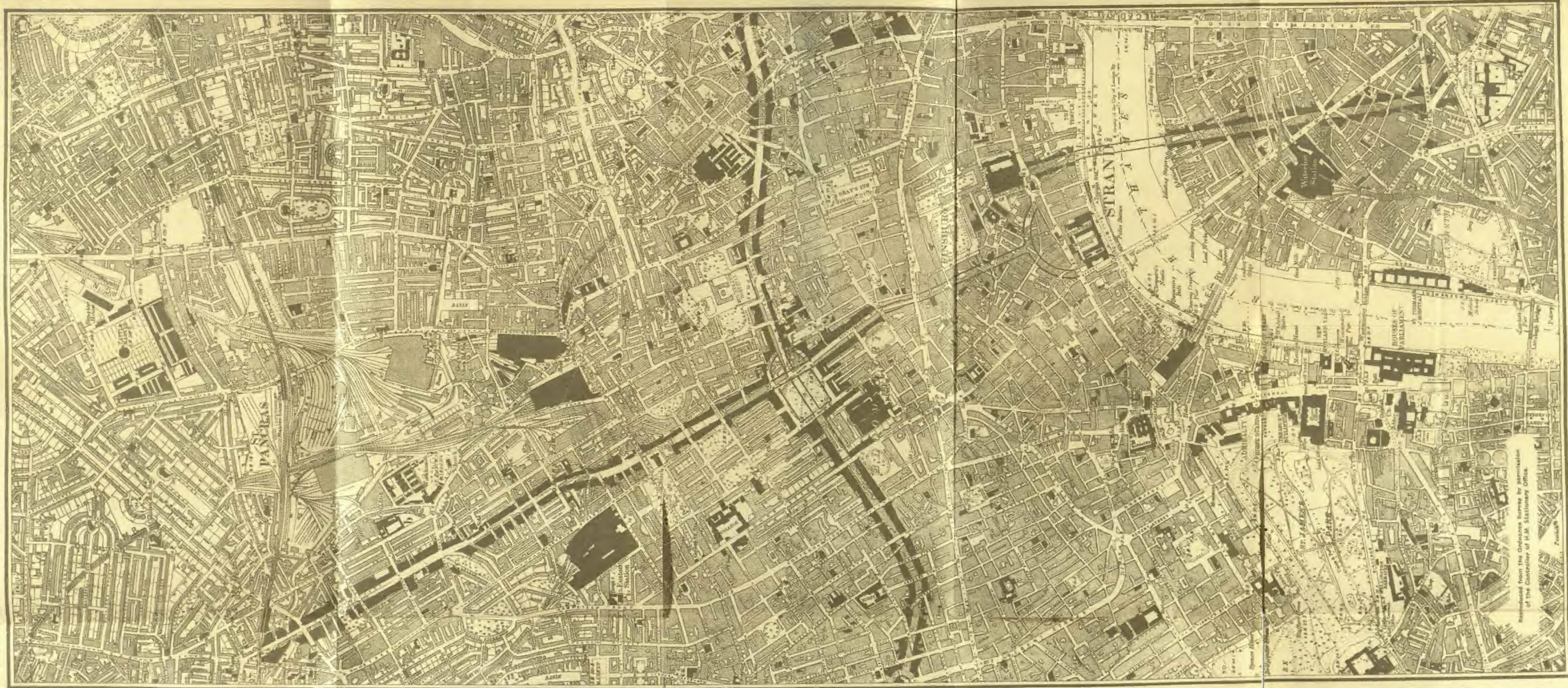
PLAN SHEWING A PROPOSED MODIFICATION OF THE ROUTE
LAID DOWN BY THE TRAFFIC COMMISSION.

SCALE

PAUL WATERHOUSE.

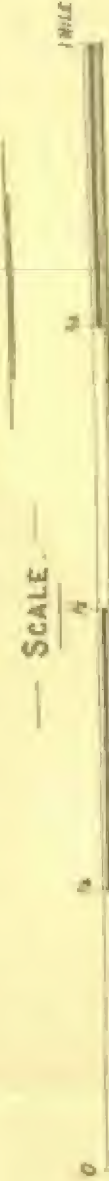
MAY, 1908.





THE NORTH AND SOUTH AVENUE

PLAN SHEWING A PROPOSED MODIFICATION OF THE ROUTE SUGGESTED BY
THE TRAFFIC COMMISSION.



PAUL WATERHOUSE
MAY, 1886.



below ground, though the tunnel would have got us over the difficulty of crossing Holborn, we should find ourselves knocking a large chip off the back of the Record Office, and, once free of that, we should have to face the wrath of the benchers of the Temple. I know what my friend Mr. Simpson would suggest.* He would say, Why cross Holborn *directly* at all? Very good; but there are difficulties again. If Chancery Lane be adopted as the line, how are we to widen it? We cannot and dare not steal from Lincoln's Inn. On the east is that troublesome Record Office again; and even if we were to attempt to work obliquely, by taking something off the east at the top and something off the west at the bottom, so to speak, we should have to sacrifice the new buildings of the Incorporated Law Society, which I feel sure we should regret. Again, let us suppose that fire has destroyed Staple Inn, or that Lincoln's Inn has suffered from earthquake, or even that the authorities of the Record Office request that they may be housed in some more beautiful structure. These interventions of Providence, of calamity, or of grace would, after all, only land us at Fleet Street; and I do not see how we are to get thence to the Embankment without some unpardonable intrusion on the Temple. It is true that a route might be found (by diversion) to the east of the Temple; but, after all, what are we aiming at? We want to cross the river as nearly as possible midway between Blackfriars Bridge and Waterloo Bridge, and such a diversion would clearly take us much nearer the former than is at all desirable.

The solution of these difficulties which I venture to lay before you (and it is a solution in which my collaborator Mr. Mansford has more real share than I have) is that we should look to the Kingsway and Aldwych for help. Assuming that the Temple Pier is the point at or near which we want our new bridge to cross the river, why should we not strike a nearly straight line for a magnificent street running from the great entrance of the Law Courts to the dome of the Bethlem Hospital? This street would, of course, be treated as regards level in the same way as Waterloo Bridge Road. That is to say, it would not descend to the level of the Embankment, but retaining the high level secured at the Fleet Street or Strand end, it would pass over the Embankment Road, and would only descend on the south side of the river in time to pass comfortably under the railway lines near Waterloo Junction Station. It would, in fact, pass over Commercial Road, which would only need to be slightly dipped, and getting level with Stamford Street would pursue the existing roadway levels under the railway. I said "nearly" straight, because a straight line would take us through the School Board offices of the London County Council. I have my fears lest the deviation necessary to avoid this obstacle may imperil the pretty little Astor building, so perhaps we had better leave this question till the Education Act is passed! Who knows what it may result in?

It is, of course, partly by way of architectural pomp that I make this road aim for the Bedlam dome at one end, and for the new Law Courts doorway at the other, but the south end is sufficiently near the "Elephant," which, of course, is the southern haven of the Commissioners, and the junction with the Strand is, as you will understand, intended as an approximation to the eastern horn of Aldwych. From Aldwych northward our avenue is ready made to Theobald's Road, and thence the bargain already effected between the London County Council and the Duke of Bedford, for the widening of Southampton Row, seems to suggest that the avenue should take that line. In any case we have found a way back to Russell Square, and I can now talk of the subject which I abandoned when we visited it before on our eastward journey.

Let us boldly realise that the intersection of our two big avenues will be in a sense the

* I allude to Mr. John W. Simpson's very able Paper read at this Institute in April of last year, which, with

Professor Pite's companion Paper, is a most valuable contribution to the serious study of the art of street creation.

most important street centre in London. It is essential that it should be an over-and-under intersection, an engineering feat which if steep gradients are to be avoided must influence, as far as levels are concerned, some hundred yards of roadway on each side of the intersection. Six or seven years ago it would have been vandalism to suggest such desecration as an alteration in Russell Square, but now Russell Square is already transfigured beyond all recognition. Even those sides of the square which have not been pulled down have been violated by a treatment which I can only describe by the use of a most horrible term. They have been "brought up to date" with a trimming of terra-cotta. So we are free to look upon Russell Square as being by this time rather a space than an architectural paradise. It is nearly a furlong across, and if it were possible to acquire for our important public purpose enough land to extend the open space about 350 feet eastward, we should be able to minimise the inconvenience of the changes of level by making the intersection, so to speak, in the open. Imagine that we have an available space 700 feet wide and 1,100 feet long; let us assume that a difference of road level of 30 feet is required for the crossing; then, with a gradient of 1 in 16, the east and west road could pass under the north and south road without any rise on the part of the north and south road at all, and without any change of level outside the boundaries of the square. 1 in 16 is of course a good deal too steep for our purpose; but it will be understood that a little rise in the north and south road, and a little gradient in the new avenues outside the square, would result in a perfectly easy two-level intersection.* Then, lest we should be accused of robbing Bloomsbury of its best breathing-space, let us agree to leave the open ground free of building. If the cutting and the viaduct were to meet one another, not in a huddle of shops, but in an open pleasance,

* It will be observed that as a matter of fact I do not suggest that the intersection should be in the middle of the open space, but considerably to the east of the middle. Even so I reckon that a gradient of 1 in 17 (in each avenue) would effect the necessary variation of level

without any change of gradient outside the open space; consequently to make the gradient quite comfortable it would be desirable to extend the slope about 100 yards beyond the square except on the west side.



ILLUSTRATION IV.—PORTION OF MR. WATERHOUSE'S SCHEME ADJOINING ALL SAINTS' CHURCH.

Scale about 16 inches to the mile.

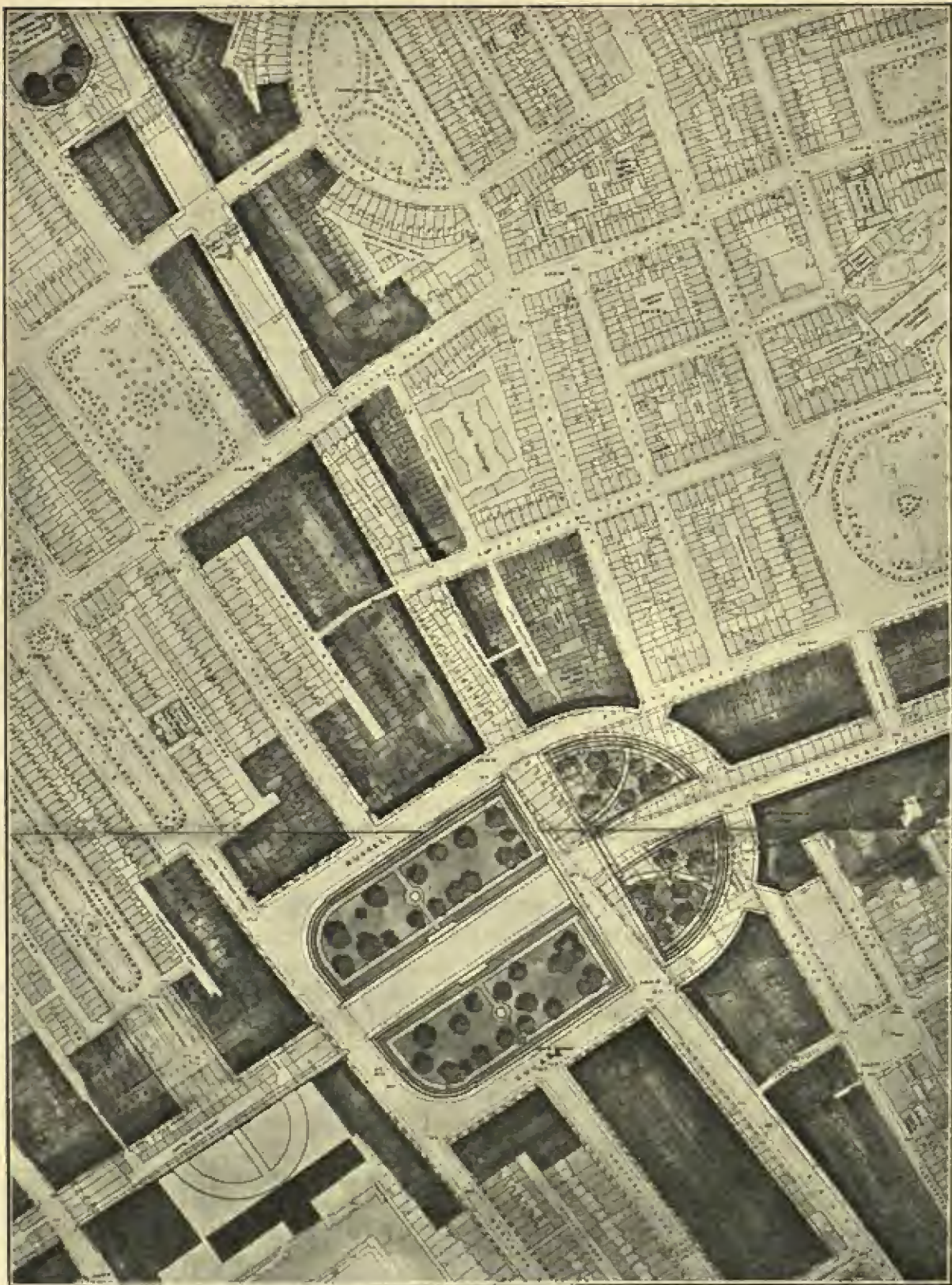


ILLUSTRATION V.—PORTION OF MR. WATERHOUSE'S SCHEME ADJOINING RUSSELL SQUARE.
Scale about 16 inches to the mile.

full of grass and green trees (and nearly all the best of the present noble trees would be undisturbed), we should have saved our consciences by giving back the stolen garden ground, and we should avoid a world of architectural worry over the problem, which sometimes, I admit, bears good fruit—the problem of the building with two front doors, one 30 feet above the other; and the still worse problem of the houses next it which cannot have doors in both streets, and consequently have several stories of unlighted basements built up against the embankments. In giving 30 feet as the distance in height between the upper and the lower roadway at the intersection, I have been guided by the dimensions of the Holborn Viaduct, and have merely added a few feet of height for the improvement of the effect. Each roadway, it should be remembered, will have beneath it an underground railway. Of course, if it were necessary for the railway of the north and south avenue to cross over the roadway of the east and west avenue, we should have to arrange a greater height of viaduct increased by the height of the railway tubes. But as this would involve not merely an unsightly bridge but also an increase of gradient in the roadways, I conclude that the railways might very properly do their crossing entirely below ground. There would naturally be an important junction station at this new centre of London traffic, and consequently the nearer the two lines are to one another in level the better.

It happens that there already exists on part of the ground which the scheme proposes to appropriate the new Russell Square station of the Great Northern, Piccadilly and Brompton Railway. The disarrangement of this station would be more than compensated by the connection of the line with the new proposed system, and the gain to the public from this point of contact with another railway route would be yet another argument in favour of the scheme I here propose.

North of Russell Square the line of route, though apparently simple, is in reality beset by a bewildering choice of alternatives. For many reasons the simplest course would be to continue the line of Woburn Place—effecting the widening on the west side—so as to avoid injury to St. Pancras Church, and taking beyond the Euston Road the track of Seymour Street which has already been adopted by motor omnibuses. There would be no doubt a little difficulty in getting past the south-east corner of Euston Station (unless, indeed, the road were to be narrowed at this point), but the route would be a good one, unless we can find a better. And I venture to think that the one I here offer is in some respects an improvement.

Let me say before passing on that I have set aside with reluctance the temptation to call for the destruction of the Euston Hotel so that the avenue might steer straight for the great Doric tetrastyle behind it, which I still look upon with reverence as one of the best things in London, and which in its present crowded position is rather foolish than dignified. It would form a most imposing goal for the apparent termination of the avenue, which would at that point in the open ground of Euston Square branch to the right (or perhaps both right and left) for its journey further north. But I only suggest this, and withdraw the suggestion regretfully, feeling that it is beyond the range of reasonable demand. The proposal would, of course, involve issuing from the middle of Russell Square, not from the east side.

Again, let us ask what are we aiming for, and what can we find in the way of ready-made material to help us on our way? Assuming that the Commissioners are right in their idea that Upper Holloway is the district with which connection must be made, it seems obvious that the Camden Road is an existing thoroughfare of which advantage should be taken. It has already a fine roadway, and the houses for about a mile are set back from the road. Again, if the "Nag's Head," Holloway, is an important goal, the "Britannia," with its Hampstead and Highgate connection, is at least as important, and I may claim that by

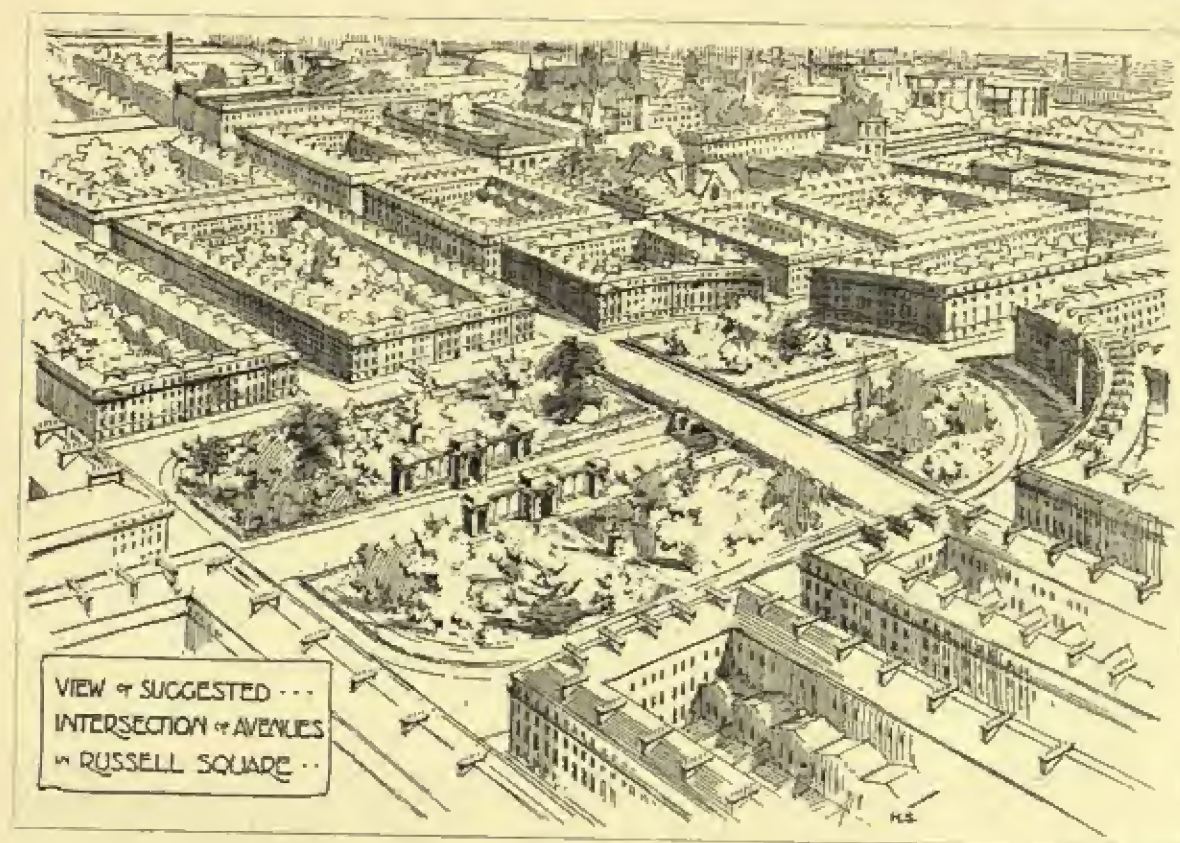


ILLUSTRATION VI.

carrying the avenue up to my proposed termination near Camden Town Station, I have not only brought it within touch of a ready-made avenue to Holloway, but have put it into a position from which connection can at once be made with Highgate and Hampstead trams, and in the future avenues could be prolonged thence to either or both of these places.

So much for our termination. Let us now get back to Russell Square again. [See Illustrations V. and VI.] You will see that in my plan I propose to issue from the square, apparently in defiance of all my principles, at a somewhat oblique angle, and that in so doing I violate (again apparently) the rectitude of Bloomsbury, and, worse still, the formality of my landscape-gardening on what, I fear, is the site of a flourishing hotel. But the case is not so black as it looks on paper.

In the first place the east-and-west road cannot proceed from Russell Square on the direct axis, otherwise it would conflict unduly with the line of Guilford Street, which I think it well to observe; in the second place, there lies east of Tavistock Square a desert, which is partly covered with dreary, cat-haunted grass, and partly by the still more dreary derelict houses of the Burton Crescent region. I have little doubt that this tract is being dedicated by the owner to improvement, and it therefore seems well fitted for our purposes. For some providential reason (not true orientation) St. Pancras Church stands somewhat awry with its present surroundings, and would find itself almost perfectly square with the new avenue if it were carried, as I now propose, past its east end. The obliquity of the viaduct in Russell Square is the effect, and not the cause, of the line of route I here propose, but incidentally it will be noticed that this obliquity helps the effective junction of the Guilford Street avenue,

and the employment of a semicircular formation at the east end of the great open space helps to cover the effect of twist.

I claim for my new route that it performs its purpose with more dignity, at less cost, and with far fuller efficiency than the Holloway to Elephant route of the Commissioners. It collects traffic from Euston, King's Cross, and St. Pancras stations with much more impartiality than theirs. It uses a mile and a half of existing roadway almost unaltered (in Camden Road and Kingsway) and it avoids a mass of interference with sentimental and other interests by abandoning the hopeless attempt to get from Holborn Bars direct to the river. Do what you will, there must be a tide of important traffic on the line of Southampton Row, a stream which my route would serve far better than any more easterly substitute.

When I said at the outset that our inquiry nearly resolved itself into three questions, I put first of the three the question of architectural design in the streets themselves. In the course of our study this question has only been incidentally answered. We cannot leave the subject without facing it more definitely and without attempting to make up our minds on the counteracting claims of individualism and collectivism. In other words, shall these new streets be built up house by house, each structure following the whim of its owner and the wit of his architect, or shall we attempt a policy of collective design in which whole blocks, or many series of blocks, are the units of the composition? For my own part I feel no doubt about the right course to adopt. Even if it were possible and desirable to make the whole of these two avenues perfectly straight and formal I should deprecate the attempt to insist upon uniformity of design on a large scale. We have, it is true, examples in London of whole streets in which the requirements or fancies of individual owners have been subordinated (in the original design) to a united intention on the part of the designer. I allude, of course, especially to such buildings as those of Portland Place and Regent Street, but experience has proved that in recent years the attempt to dispose of valuable frontage sites under conditions which debar the free exercise of personal architectural wishes and commercial requirements are not very successful. Further it may be said that individualism in street architecture is in London by no means unsuccessful, and that the atmosphere of our city, which, in spite of the Prime Minister's recent offer to clarify it, is likely to remain somewhat less brilliant than that of Italy, renders ineffectual that long-drawn straightness and uniformity which in continental cities have an intrinsic merit.

A straight street of great length and rigid homogeneity is wasted in London. A series of slight curves or obliquities which bring into view first one side and then another of the street may so far from marring the architectural effect actually enhance it, and in such streets a wealth of concentrated rival successes is apt to produce a richer architectural whole than an infinite longitude of classic purity hurrying to catch a vanishing point. Of course there are portions of our street scheme of the future which no sane man would entrust to caprice. I take it that, if (I won't say my scheme, but) a scheme similar to mine were eventually adopted certain points would be selected as demanding homogeneous and continuous design. The first departure by a quadrant from the Bayswater Road, the All Souls' circle, the "place" opposite the British Museum, Russell Square, the bridge over the Thames and the viaduct over the Embankment with their immediate approaches would necessarily be committed each to an architect (not necessarily all to one man) for continuous connected treatment.

I take it that the proposed Traffic Board would necessarily have an architectural side to its functions. Architecture was perhaps properly unrepresented on the Royal Commission; but it obviously cannot be ignored in the machinery which is the outcome of that Commission if any outcome is to be. The Traffic Board must certainly have as one of its chief duties the safeguarding and promoting of a concrete and definite plan of street improvement—must in

fact adopt the Commissioners' plan or a better one and stick to it—and it is obvious that such a course of action can only be carried out in consultation with some man or body of men who are architectural artists in the best sense.

I suggest, as a reasonable and practical course, that there be appointed an architectural adviser to the Board (or, if preferred, three architectural assessors). That the architectural adviser should not himself design any portion of the new streets, unless it be in the matter of bare plan. That for each building centre demanding continuous treatment a separate architect should be appointed; and that on no consideration whatever should individual licence on the part of lessees or purchasers be allowed to prevail within the boundaries of such prescribed portions. Finally, that on all other parts of the new frontages perfect liberty of design and choice of architect should be allowed, subject to the control of the Board's architectural assessor or assessors, who should have absolute powers of censorship over all designs submitted.

The proposals of the Commissioners for the improvement of streets are by no means confined to the two new avenues. It is not my wish here to deal with more than one of their other suggestions, otherwise my paper would be unduly prolonged. They will all be seen marked on the Commissioners' own plan, which I have exhibited on the screen. I merely wish to draw attention for a few moments to the projected device for crossing Piccadilly. It consists, as you will see, of a roadway to be driven through the grounds and under the building of Devonshire House, out of Berkeley Square to the Green Park, and thence along the west front of Bridgewater House, Spencer House, and the other buildings that line the Park. The road would, of course, pass under Piccadilly, which would become, at this point of crossing, a viaduct. The scheme is certainly a tempting one, but, I should think, terribly costly. Certainly, it destroys—but one house in its course; * but would there not be great difficulty as to the public rights in the Park and the private rights of these majestic palaces which have hitherto abutted upon it?

I have long cherished a hope for a picturesque rearrangement of the top of St. James's, whereby it would pass under Piccadilly and join a widened Albemarle Street, which, if it were prolonged northward to Bruton Street, would pick up the cross-traffic from Conduit Street, as well as relieving that terrible bottle-neck opposite Long's Hotel. The softening of the steep hill of St. James's would be a great gain to horses, and the view of the Palace under the Piccadilly bridge would be superb. But this scheme, though fascinating, is, I know, full of difficulties, and I give it up.

Let me put forward one alternative. That new Park avenue that leads to nowhere from the Queen Victoria Memorial, if it is legitimate to trespass on the Park at all, why should it not serve a useful end? Let it plunge under a Piccadilly viaduct, and find its way boldly into the throttled maze of Curzon Street. It would do a fine work in relieving traffic.

The folk who now drive down St. James's out of Albemarle Street are going either to Victoria or to Westminster. In the future the Westminster travellers would be able (on the abolition of the Duke of York's steps) to drive down Waterloo Place, and the passengers for Victoria might pass Buckingham Palace by the new route which I here suggest. Thus the present crush of cabs waiting to get from Albemarle Street to St. James's would be relieved.

I have finished my brief dip into this vast subject. I want to say in conclusion that in setting forward my own ideas on the scheme I make no pretence of being wiser than the

* I see that the Advisory Board reckon that Devonshire House would not be destroyed, but would only be affected by "a part of the roadway" coming underneath it. The plan shows the roadway as making straight for

the centre of the house; and if it is to *tunnel* beneath it and beneath Piccadilly the tunnel would surely be an unduly long one.

united wisdom of the Commissioners; still less do I wish to have it thought that I look upon my alternative suggestion as being free of difficulties. Indeed, I admit that while my route saves certain buildings which the Commissioners would ignore or annihilate, it destroys some (all modern) which expediency may elect to save. My object in putting forward a scheme at all is very simply explained. Of our Council's choice, not mine, I was bidden to read a Paper on the Report; criticism of such a document can, I think, only be useful if it is constructive, not merely destructive; therefore I have felt driven to lay before you my ideas on the subject. And this I do with the request that you will not class me with the gentlemen who are for ever pressing their personal hobbies as to improvements upon an uninterested public, or with those who periodically write to *The Times*—putting plenty of letters after their names—to suggest, for example, that Hyde Park Corner should change places with the Marble Arch, or that Nelson's Column should be decked in luminous paint.

DISCUSSION OF THE FOREGOING PAPER.

Sir JOHN TAYLOR, K.C.B., *Vice-President*, in the Chair.

SIR R. MELVILL BEACHCROFT, who rose at the instance of the Chairman, said he considered it a great privilege to move a vote of thanks to Mr. Waterhouse for his exceedingly interesting Paper. He thought himself about the last person in the room who ought to undertake such a task, for he had no special knowledge of the subject. He was, however, an original member of the London County Council, having been a member for over seventeen years, and had had the privilege of serving on the Improvements Committee of that body during the period when the great scheme from Holborn to the Strand was under final consideration. He also remembered some thirty-four years ago having had something to do with opposing a scheme for carrying a new thoroughfare from the Marble Arch to Whitechapel which was brought before the then Metropolitan Board of Works, with the suggestion that that Board should contribute a million and a half towards the scheme, which was to cost from three to four millions. The Metropolitan Board of Works did not see their way to make that contribution. They opposed the scheme and the Bill was withdrawn. He had listened to the Paper, which had been delivered in so interesting, instructive, and amusing a manner, with the greatest possible pleasure. Mr. Waterhouse asked what we were aiming for. Well, he supposed we were hoping that some scheme of the kind he suggested might one day be possible; but Mr. Waterhouse had said nothing about the question of pounds, shillings, and pence. He had merely put it to them that, in anticipation of the recommendation of the Royal Commission being given effect to, it was desirable—and he quite agreed with him—that the architects should be beforehand and consider the architectural effect of any scheme proposed. Speaking merely as a poor, overburdened payer of rates and taxes in London, and having heard mention of something like twenty-five

millions as the least cost that would be involved, he was afraid they would have to wait some time before they would see a scheme of the kind proposed carried out. He agreed with Mr. Waterhouse that the Report of the Royal Commissioners had gone rather mad on tramways. He thought they were counting a little bit without their chickens in assuming that tramways were going to occupy the whole of the main streets of London. He thought that the motor-buses, of which they had heard so much—and smelt so much—although at present in an inchoate and infantile state, would in a few years, if not months, show a very different complexion, and, as regards cross traffic at all events, would in future meet all the wants of the day. With regard to the Traffic Board Bill mentioned by Mr. Waterhouse, he had heard only that day that the Government were opposing it, and he was afraid therefore the chance of the Bill passing into law was very remote. The Bill was not favoured, for instance, by Mr. John Burns, who, he noticed, expressed his opinion in the *Pall Mall Gazette* of this month that "the only one fault in the Report is the recommendation to institute an Advisory Board." "Such a Board" (wrote Mr. Burns) "already exists: its headquarters are at Spring Gardens, its achievements are seen around in the 500 road and street improvements which have been formed and completed by the County Council during the past 18 years." Although a member of that body he could not help saying that he agreed with what the Royal Commissioners suggested in their Report, namely, that if there was to be a Board it ought to be an independent Board. If the London County Council liked to give up its trade and municipal enterprises, its steamboats and house building, then he would say by all means let the Council be the advisory body. But a great central body could not well supervise and administer. He agreed with Mr. Waterhouse

that the question of the architectural treatment of all new streets of London was a matter of vital and imminent importance to London. They had no Architectural Minister, no æsthetic authority whatever in London, to guide and direct the London County Council, or anybody else. When they made new streets, their architecture and plan were always left to the chapter of accidents. He attached great importance to what Mr. Waterhouse said about the undue width of streets. Anything over 100 feet might well be, not only a detriment, but even a danger to traffic. How Mr. Waterhouse in his plan of new streets had managed to glide through London in the way he had done, avoiding this church and that, and working in the squares, was quite a marvel to him. He had done it in a manner that was most successful, and it certainly differed from the method adopted by Mr. Frederick Harrison when he was devising his scheme for the new roadway from Holborn to the Strand. Mr. Harrison simply took his ruler and ruled a couple of lines from Holborn to the Strand, and said, "That is to be our new street." That plan had been carried out, and Mr. Harrison had never ceased to congratulate himself on the result of that achievement. Possibly he was right, but it was not a course which could often be taken in devising a new thoroughfare. One word with regard to tramways: these had hitherto naturally followed what might be called radial lines. The difficulty was to connect these radial lines by cross or belt lines, and this was a feature which those who had to deal with the problem had to consider, and must be borne in mind in laying out any new thoroughfares. If the Council was given sufficient power and a sufficient lease of life, say another ten years, this great proposal of Mr. Waterhouse, which they all welcomed, might possibly see fruition.

SIR GEORGE C. T. BARTLEY, K.C.B., said he had been asked to second the vote of thanks. He was a visitor, and he supposed the only reason he had been invited was that he was a member of the Commission criticised in the Paper. He would not enter at any length upon the subject, but it should be remembered that the subject the Commission had before them was the traffic and not the architecture of London. Of course the question of the proper architecture to be employed in the new streets must at once arise, and it showed the enormous difficulties of the traffic problem when one subject ran into another, and when the architecture, for instance, was closely allied to the consideration of the use of the streets for traffic. He should like to say, however, that the conclusion that the Royal Commission had adopted these great thoroughfares was a little premature. They had an Advisory Board, and the Advisory Board did recommend these thoroughfares. Their proposals were not detailed in the careful way in which Mr. Waterhouse had prepared the plan; they were merely block outlines of a

scheme. But the Report of the Commission itself was hardly bold enough to adopt these great thoroughfares. He had been in the unfortunate position of the dissentient voice on the Commission because he did accept them, and considered that the only solution for the traffic of London was in the creation of some large new streets running east and west, and north and south. He felt that the time had come—he felt it during the inquiry, and he felt it very strongly now—when the traffic of London should be met by at least two large thoroughfares such as had been discussed that evening. The enormous increase in the traffic, multiplied by fivefold every ten or fifteen years, which was proved before the Commission, showed that it was impossible by any detailed alteration, such as many of the schemes which were put forward implied, practically to solve this question, which ought to be solved, say, for a century. It was a subject that one would never solve in one sense, because the changes of a nation went on, and a hundred years hence there might be things even better than motors which would provide the facilities required, and which might require, their special arrangements for their development. The subject of trams had been referred to, and he should like to defend the Commission from the statement that they had gone mad upon trams. Certain evidence before the Commission did undoubtedly suggest that some people were quite mad upon that subject; for one witness wanted a tram up Lombard Street; and another had the audacity to suggest what he might almost call the sacrilege of a tram cutting across Hyde Park. In his own supplementary report he thought even a year ago when he wrote it that they must be very careful, and wait and see whether motor omnibuses would not do even more than the trams. The fact that they did not move on rigid lines was an enormous advantage in narrow streets; therefore he hoped they would be so successful, when they got rid of the noise and the smell, that they would really supersede many of the trams. But it must be remembered, in considering this great question, that the problem was the rapid locomotion of people for business purposes. That was, after all, the great question the Commission were asked to consider, and, to his mind, the avenues proposed led to a solution. The one east and west was by far the more important of the two, for it could be made a means of running the great lines of railway that came from all parts of London and all parts outside of London right to the City. Even if trams might be superseded, or motor omnibuses might take the place of many trams, still he thought that, as they proposed, a subway under those great thoroughfares for tramways or light railways would be an enormous advantage in bringing the thousands, the tens of thousands, the hundreds of thousands, of people that came from all the suburbs of London every day to

the City. As regards the proposed Traffic Board and the exercise of authority over architecture, which he thought most important and specially interesting to the present gathering, he should resent in every way (unfortunately he had not a seat in the House of Commons now, and he could not say much) the London County Council being the authority, as he feared they might be. To begin with, they had quite enough to do in their commercial undertakings, and more than they should do; but it must be remembered that, after all, the area that the London County Council covered was but a fraction of that which was concerned in the locomotion of London. The locomotion of London consisted not only in the district within the police area of London, but for many miles round, and it was becoming larger and larger every year, with motor-trams, railways, and so on. Therefore it would be monstrously unfair to make the London County Council the judge, and the jury for that matter, on those points when they had areas like Middlesex, Surrey, Essex, Hertford, all intimately connected with this great problem, but which were not to have any voice in the matter. There was no doubt that the tribunal ought to be an absolutely impartial one, appointed by the Government of the day, and independent altogether of local bodies. He had had very great pleasure in listening to the Paper: it had raised questions which of course were not specially before the Commission, and which they had not reported upon. He fully agreed, however, in its great importance, and he could only hope that if these great thoroughfares were made they would make London even more beautiful than she is. He was a Cockney himself, and he was proud of London. He heartily agreed with Mr. Waterhouse that to have absolutely straight streets, as they had in New York and other great American cities, was not the pleasantest form of architectural feature. He thought turns and bends enhanced beauty, and it was certainly less fatiguing to walk along curves than down very straight streets. He was sure that if the architects of England, and London especially, would look to this and keep their attention strictly upon it, these great thoroughfares would be pressed forward, and would be a means of making London, as it should be, not only commodious for traffic, but a fine architectural city, as of late years they had shown they were desirous it should be. He had great pleasure in seconding the vote of thanks.

Mr. H. HEATHCOTE STATHAM [*F.*] said he had very great pleasure in supporting the vote of thanks for this most interesting, and, as another speaker had already observed, amusing Paper. Nobody succeeded better than Mr. Waterhouse in putting things in an interesting manner. He was, however, a little sorry to hear him rather sum up against the idea of symmetry in the architectural treatment of these great streets, though he noticed that he recommended sym-

metry at certain points. It was a remark of a late novelist, Mr. Grant Allen, that Paris was a city, and London was a collection of villages. If they wanted a city to look like a city, it seemed to him that its great thoroughfares ought to be treated with a certain degree of architectural symmetry. He did not mean to say to make the whole thing one design from end to end, but, at all events, to divide it into blocks which might have a certain harmony with each other, though different in detail; and even in regard to a single block, like a terrace, he had always thought that the real secret in treating a terrace, in what ought to be a dignified style, was symmetry in the general design, with minor differences in detail, which did not affect the general design, but which nevertheless gave each owner a little personal interest in his own house, his own building, or whatever it was. He must say that he thought too much was made of the argument that it was difficult to let or get rid of sites and so on, unless a free hand were allowed to every individual owner. Something must be sacrificed for the public dignity of a city, and individual owners ought to be a little less selfish, and ought to consider that it was their duty to the public to give up something of their individual tastes for the sake of the general architectural effect. In Paris they were made to do so. They tried to alter some houses in the Place Vendôme, but were not allowed to do it, as it would have spoiled the architectural symmetry of the square. For a great city like London, in thoroughfares on a large scale, that was a very important point, and he should prefer that sort of symmetry to the kind of freedom of treatment Mr. Waterhouse seemed rather to recommend, more especially when it was a question of a geometrical curve or crescent. He considered that they lost the effect of a crescent when they dropped symmetry. The moment he saw the plan of the crescent road at the foot of Kingsway he said that it ought to be treated in one design; and in the competitive designs which were sent in as suggestions, he remembered that most of the competitors did treat it so. Of course it was not going to be treated so. They had lost that. But he could not help thinking that they had lost a great opportunity. In regard to the small surface round All Souls' Church, he thought that was a very good idea of making the portico and spire the centre point. He quite agreed that All Souls' Church was a building which was worth preserving; it was for its time a very clever attempt to adapt the spire to classical architecture. But in regard to circuses on at all a small scale, it must be remembered—there were a number of instances of it in London—that if they had several wide streets cutting into those circuses, they never realised to the eye that it was a circus; they lost it; and, therefore, to make them circuses was rather introducing an awkward shape

for planning houses, and it did not fulfil what the architect intended. Therefore, he said, make a circle round the church and enclose it, but keep the open space a square; it would look better and be more convenient. He particularly admired the care with which Mr. Waterhouse had, all through his Paper, tried, as he said, to dress up past monumental buildings, and also the remarks he made as to the inconvenience of joining streets obliquely through other roads and streets. That had been done in America, and they had already got plans out for rebuilding San Francisco on that scheme—laying out streets like gridirons and drawing avenues obliquely through them. They knew what the effect of that was in the illustrations in the American papers—what had been called “flat-iron” buildings at street corners. They could not have a worse form for architectural appearance, and they could not have a worse or more inconvenient form of site for planning. He had only one word more to say, as to the proposition which Mr. Waterhouse made, rather calmly, for carrying a road from Victoria across the Green Park through Devonshire House. Devonshire House was not beautiful architecture, and it was not so very old, but still it was what one called an historic London house of considerable importance, and he thought one must judge that sort of building not solely by its architectural value, but by its historic interest. He himself should think a proposition to drive a road through the middle of that house rather an act of vandalism.

MR. WATERHOUSE: It is not my idea, but the Commission's.

SIR GEORGE BARTLEY: It was a tunnel under Devonshire House. I did not, however, support that proposal.

MR. W. D. CARÖE, M.A., F.S.A. [F.] said he should just like to add a few words of thanks to Mr. Waterhouse for his very illuminating Paper. It was not often that upon a subject of this kind one was thoroughly amused and instructed at the same time. He had succeeded in doing this admirably, and making the subject most interesting. It was a great satisfaction to them all to have had Sir George Bartley present to express the point of view of the Commission itself; but he ventured to think—and he said it with great regret—it was rather illustrative of the feeling towards architecture in this country at the present moment that the Instructions to the Commission did not make the slightest reference to architecture as having any part of importance in the question of London traffic. If the Instructions to that Commission had been to deal with the traffic of London consistently with making the improvements a dignified addition to the architecture of London, he thought it would have been more on lines which they could have supported and approved of; but simply to say, Improve the traffic of London, entirely independently of all architectural conditions of dignity,

was hardly what one would find, for instance, in Paris or in Berlin. It was the case, he believed—and he had looked through the Report pretty carefully—that there was not a single reference to architecture as having even any existence in a great city; and therefore it was very advantageous that Mr. Waterhouse should have dealt with the subject, as he had done, from the architectural point of view, in which, of course, the traffic point of view was included. He would not follow in detail many of Mr. Waterhouse's points; but there was just that one point Mr. Statham had already mentioned, that of monumental buildings and symmetry through the whole course of a street of this kind, and the opposite picturesque treatment. It had often struck him that the treatment of Regent Street, by which each block between each cross street was treated as a single symmetrical block, could not possibly be improved on in such a street as this. They got there really both of those aspects; they got a sufficient amount of picturesque treatment, and they got essentially a monumental treatment. If they compared Regent Street, which, if it had been constructed in stone, he ventured to think would have been a thing they should have been proud of for ever, and should not have treated it as it had been treated—if they compared Regent Street with the Brompton Road, they would get quite a sufficient object-lesson as to which was the better treatment of the two.

PROFESSOR BERESFORD PITE [F.] said that, while adding his quota of thanks for the Paper, he hoped that the importance of the subject would lead them to prolong the discussion. Mr. Waterhouse's Paper had provided food for thought and for further discussion, and it would be valuable, apart from the importance of anything which attached to their discussion as an Institute of Architects on this most important subject. If it would be possible to continue the discussion on another occasion he would move the adjournment.

MR. E. W. HUDSON [A.] said the subject was a most important one, and this was the first time it had been considered by the Institute. He would therefore second Professor Pite's proposition.

THE CHAIRMAN consented to the adjournment, and stated that arrangements would be made for the discussion to be resumed at the meeting of the 11th June. Meanwhile, he said, they were all agreed that they were deeply indebted to Mr. Waterhouse for the immense trouble and pains he must have taken to prepare the Paper. It had been his (the Chairman's) intention to make some remarks on the subject, but he would now reserve them till the 11th June.

MR. WATERHOUSE, in briefly expressing his acknowledgments, said he felt much honoured that Sir Melvill Beachcroft and Sir George Bartley, representing as they did two such important bodies, should have taken the trouble to attend and to propose this vote of thanks.



9, CONDUIT STREET, LONDON, W., 26th May 1906.

CHRONICLE.

THE CONGRESS.

**Seventh International Congress of Architects,
London, 16th to 23rd July.**

Arrangements for the Congress are rapidly approaching completion, and members of the Institute intending to take part are urged to communicate with the Secretary without delay. The following are some extracts from the provisional programme which will shortly be sent to members of the Congress:—

Meeting Places of the Congress.

The headquarters of the Congress will be the Grafton Galleries, Grafton Street, W.

The Inaugural Meeting will take place at the Guildhall, E.C.

Meetings will be held both at the Grafton Galleries and the premises of the Royal Institute of British Architects, 9 Conduit Street, W., for the discussion of the subjects of the programme.

Opening Day.

The Grafton Galleries will be open at 10 o'clock on the morning of Monday, 16th July, when the President will hold an informal reception.

Badges, tickets for visits, &c., cards of invitation, will be obtainable at the Congress Bureau, Grafton Galleries.

At 11.30 there will be a meeting of the Permanent International Committee.

At 8 o'clock the Inaugural Meeting of the Congress will take place at the Guildhall, E.C., kindly placed at the disposal of the Congress by the Corporation of the City of London.

Receptions, &c.

The Royal Academy of Fine Arts will entertain the Congress at a Soirée at Burlington House.

The Right Hon. the Lord Mayor of London will entertain the Congress at a *Conversazione* at the Mansion House on the evening of Tuesday, 17th July (limited to 1,000 invitations).

The Royal Institute of British Architects will entertain the Congress at a Garden Fête at the

Royal Botanic Society's Gardens on the evening of Thursday, 19th July.

The Art Workers' Guild will entertain a small party of members on the evening of Friday, 20th July.

The Chairman and Directors of the London Exhibitions, Limited, have put 500 invitations to visit the Imperial Royal Austrian Exhibition at Earl's Court at the disposal of the Executive Committee. Application for tickets must be made at the Congress Bureau, Grafton Galleries.

The Zoological Society of London have kindly offered admission, to foreign members, to their Gardens on Sundays, 15th and 22nd July—days when they are closed to the general public—on presentation of their cards of identity.

The Royal Botanic Society have kindly offered members free admission to their Gardens during the Congress week on presentation of their cards of identity.

The Lyceum Club (for ladies) will constitute lady members of the Congress visiting London hon. members of the Club.

The Lyceum Club also kindly offers a reception to the Congress on the afternoon of Wednesday, 18th July.

The Ladies' Committee are arranging for the comfort and convenience of ladies. They will be recognisable by the Committee badge.

Visits.

A. *Hatfield*.—The seat of the Marquis of Salisbury. Tuesday, 2.30.

B. *Hampton Court Palace*.—Tuesday, 2.30. A and B are alternative visits, and will take place simultaneously.

C. *Buckingham Palace Gardens*.—By the gracious consent of His Majesty King Edward VII.; and *Westminster Abbey*. Wednesday, 2.30. Later

D. The Works of Messrs. Holloway Brothers and E. The Potteries of Messrs. Doulton & Co. These visits D and E will take place simultaneously.

F. *Windsor Castle*.—By the gracious consent of His Majesty King Edward VII. Thursday, 2.30.

G. St. Paul's; The Temple; The Institute of Chartered Accountants; St. Bartholomew's Church, Smithfield. Thursday, 2.30. This London visit is arranged for those who do not go to Windsor; as also alternative visits:

H. Kensington Palace; Dorchester House, by the kind consent of His Excellency the American Ambassador.

J. *Oxford*.—All-day visit on Friday. Lunch in the Halls of Exeter College and Balliol College.

K. *Cambridge*.—All-day visit on Friday, alternative with Oxford. The Congress party will be received in the Senate House by the Master of Trinity as Deputy Vice-Chancellor. Lunch in the Halls of King's College and Clare College.

L. *Tower of London*.—Friday morning, for those who do not join the Oxford and Cambridge visit.

M. Victoria and Albert Museum and Royal College of Science: Sir Aston Webb's new buildings. Friday afternoon, for those who do not join the Oxford and Cambridge visit.

N. Bridgewater House. By the kind consent of the Right Hon. the Earl of Ellesmere. Saturday morning.

O. Greenwich Hospital. Saturday afternoon.

P. Houses of Parliament; The new Westminster Cathedral. Saturday afternoon, for those who do not join the Greenwich visit.

Farewell Banquet.

The farewell banquet will take place on the evening of Saturday, 21st July, at the Hôtel Cecil, at 7.30. Price of ticket (wines included) 21s. It is hoped that many distinguished persons in London will be present.

Sir Lawrence Alma-Tadema, R.A., has kindly consented to design the menu card.

Exhibitions.

There will be the following exhibitions in the Congress premises, Grafton Galleries:

An exhibition of photographs of buildings executed by living British architects.

A chronological exhibition of British architecture from the Norman Conquest (1066) to the death of Sir Charles Barry (1860).

Oil paintings and water-colour drawings of English architecture.

A few choice specimens of British furniture and silver work.

At the premises of the Architectural Association, 18 Tufton Street, Westminster, S.W., will be exhibited a selection of Viennese students' drawings arranged by Professor Otto Wagner (Vienna).

Subjects for Discussion.

The Executive Committee have received the following communications on the questions of the programme:—

1.—THE EXECUTION OF IMPORTANT GOVERNMENT AND MUNICIPAL ARCHITECTURAL WORK BY SALARIED OFFICIALS.

M. F. Blondel (France).

Society of Austrian Architects.

Gaston Trélat (France).

Oscar Simon (Société Centrale d'Architecture de Belgique).

2. ARCHITECTURAL COPYRIGHT AND THE OWNERSHIP OF DRAWINGS.

George Harmand (France).

H. H. Statham.

Gaston Trélat (France).

3.—STEEL AND REINFORCED-CONCRETE CONSTRUCTION.

(a) The general aspect of the subject.

(b) With special reference to æsthetic and hygienic considerations in the case of very high buildings.

The Joint Committee on Reinforced Concrete (England).

Herr Wilemanns (Austria).

Professor Henry Adams (England).

E. P. Goodrich (America).

Louis Cloquet (Société Centrale d'Architecture de Belgique).

Joaquim Bassegada (Spain).

Gaston Trélat (France).

4.—THE EDUCATION OF THE PUBLIC IN ARCHITECTURE.

John Belcher, A.R.A.

T. G. Jackson, R.A.

Arthur Hill.

Othmar von Laixner (Vienna).

Herr Muthesius (Berlin).

Banister F. Fletcher.

Francisco del Villars y Carmona, Manuel Vega y March, Eduardo Mercader y Saccanella (Spain).

Society of Austrian Architects.

Gaston Trélat (France).

Gaston Anciaux (Société Centrale d'Architecture de Belgique).

5.—A STATUTORY QUALIFICATION FOR ARCHITECTS.

Robert Walker.

John S. Archibald (Canada).

L. Bonnier (France).

Society of Austrian Architects.

Gaston Trélat (France).

6.—THE ARCHITECT-CRAFTSMAN: HOW FAR SHOULD THE ARCHITECT RECEIVE THE THEORETICAL AND PRACTICAL TRAINING OF A CRAFTSMAN?

Reginald Blomfield, A.R.A.

Professor W. R. Lethaby.

J. M. Poupinel (France).

Fr. van Gobbelschroy. (Société Centrale d'Architecture de Belgique).

Society of Austrian Architects.

Gaston Trélat (France).

7.—THE PLANNING AND LAYING-OUT OF STREETS AND OPEN SPACES IN CITIES.

Raymond Unwin.

Herr Stübgen (Germany).

E. Hénard (France).

B. Polles y Pivo, J. Majo y Ribos, M. Bertran de Quintana (Spain).

C. H. Bula (Société Centrale d'Architecture de Belgique).

Gaston Trélat (France).

8.—TO WHAT EXTENT AND IN WHAT SENSE SHOULD THE ARCHITECT HAVE CONTROL OVER OTHER ARTISTS OR CRAFTSMEN IN THE COMPLETION OF A NATIONAL OR PUBLIC BUILDING?

Sir W. B. Richardson, K.C.B., R.A.

H. P. Nénot (France).

C. B. Müller (Germany).
 Association of the Architects of Catalonia (Spain).
 Society of Austrian Architects.
 Gaston Trélat (France).

9.—THE RESPONSIBILITIES OF A GOVERNMENT
 IN THE CONSERVATION OF NATIONAL MONU-
 MENTS.

Professor G. Baldwin Brown.
 A. Besnard (France).
 Gaston Trélat (France).
 Joseph Artigas y Ramoneda (Spain).

10.—THE ORGANISATION OF PUBLIC INTER-
 NATIONAL ARCHITECTURAL COMPETITIONS.

J. Guadet.
 Society "Architectura et Amicitia" (Holland).
 Gaston Trélat (France).

The Executive Committee have also arranged for Professor Meydenbauer of Berlin to read a Paper on "Messbildverfahren" or "Photometry." A communication on this subject has also been received from M. Marcel le Tourneau of Paris.

M. Honoré Daumet (Paris) will read a communication on the Château de Saint-Germain.

Mr. Cecil Smith (Keeper of Greek and Roman Antiquities, British Museum) will read a Paper on "The Tomb of Agamemnon."

Abstracts of the Papers and communications will, if possible, be sent to members of the Congress some time before the opening day.

The New Regulation under By-law 9.

The two Special General Meetings which preceded the Ordinary Meeting for the reading of Mr. Waterhouse's Paper last Monday occupied but a very few minutes, the Resolutions moved by the Chairman, Sir John Taylor, being at once and unanimously adopted without discussion.

The Fellowship Procedure Committee, whose recommendations were in question at the first meeting, was appointed by the General Meeting of the 5th March "to consider the form of voting-papers, the method of election of Fellows, and other matters connected therewith, including any revision of the By-laws on the subject if necessary, and to report to a General Meeting as soon as possible" [JOURNAL, 10th March, p. 256]. The Committee, appointed by the same meeting, consisted of the following Fellows:—Messrs. C. H. Brodie, Max Clarke, A. W. S. Cross, T. P. Figgis, F. T. W. Goldsmith, Edwin T. Hall, Henry T. Hare, George Hubbard, and Wm. Woodward. The Special Meeting last Monday was summoned by the Council on the requisition of Messrs. Alfred W. S. Cross, Max Clarke, C. H. Brodie, George Hubbard, T. P. Figgis (Members of the Committee), Ernest George, Alfred B. Yeates, Edmund Wimperis, T. W. Cutler, Mervyn Macartney, *Fellows*, and William A. Forsyth and J. R. Best, *Associates*, with the object of submitting the

Report and Recommendations of the Committee, and the Resolutions proposed by the Council for adopting and giving effect to them.

The Committee's Recommendations were as follows:—

(1) That the Regulation under By-law 9 be amended by omitting all the words after "respective proposers," and adding the year in which the candidate was article, and, in the case of a candidate for Fellowship, the year in which he commenced practice; the Regulation further to state that the voting-papers shall be in the form of the papers issued for the election of the Council.

(2) That the Direction to Voters printed at the foot of the voting-paper should read as follows:—
 "1. The voter (Fellow or Associate) is to strike out IN INK the name of any candidate against whom he wishes to vote. All names not so struck out will be counted as voted for."

(3) That a notice be printed in bold type at the head of the voting-paper urging the importance of the paper's being returned.

The Chairman read the Recommendations to the Meeting and formally moved, in accordance with Recommendation 1, that the Regulation under By-law 9 be amended so as to read as follows:—
 "The voting-papers, which shall be in the form of the voting-papers issued for the election of the Council, shall state the name and address of every candidate, with the names of his respective proposers, the year in which he was article, and, in the case of a candidate for Fellowship, the year in which he became engaged as a principal in the practice of architecture."

The resolution was voted on and carried unanimously, as were also resolutions for the adoption of the other Recommendations.

The second Special Meeting, which was called to confirm the Resolution passed on the 7th May with reference to the extension of the present Council's term of office, was then held, and the Resolution was duly confirmed.

Modern Church Design and the Incorporated Church Building Society.

It is stated in the Annual Report of the Incorporated Church Building Society that the Society has been instrumental in aiding in the erection of no fewer than 2,482 additional new churches, and in assisting in rebuilding, enlarging, or otherwise improving the accommodation in 6,426 other churches or consecrated chapels of ease. The actual amount of money entrusted to the Society and used in making grants towards the objects named has reached £912,761. Valuable service is rendered in the work of the Society by their honorary architects who advise on the various schemes in which the aid of the Society is to be given. At the annual meeting of the Society, last week, Mr. Temple Moore, in the course of some remarks, gave some useful suggestions as to the relations which should exist between the honorary advising

architects and the architects of proposed works. The work of the advising architects, he said, might be thus defined:—To criticise and advise on plans submitted of works proposed: first, as to construction; secondly, as to convenience and suitability of arrangement; thirdly, as to architectural design; fourthly, as to restoration of ancient churches. He assumed that one of the objects of the Society was to raise the standard of design in church architecture, so that (so far as lay in their power) not only solid and suitable, but also architectural church buildings might become traditional of the work which passed through the Society's hands. It was obvious that no rules except of a general nature could be laid down on the subject of design, and hitherto the honorary advising architects had refrained from interference, except where the design had been flagrantly bad or unworthy. He felt, however, that they should no longer be content to leave the matter like that. He granted that design was indeed a matter of personal taste and preference, but there was a certain correct and appropriate feeling in design upon the broad lines of which, despite diverse personalities, their advising architects could agree. If the Society was to have any real influence towards the raising of the standard of church work in building, the hon. architects clearly must criticise the designing, and make suggestions wherever such were felt to be needed. He regretted that, generally speaking, the standard of design in the new church work brought before the Society's hon. architects was often very inferior, and did not appear to improve. Perhaps, after all, this was not very surprising, for in these days of hurry and many special architectural needs not known formerly, church design had become very largely a special branch of architecture. The busy general architect, though an able practitioner, had not the time, or, it may be, the opportunity, to devote himself seriously to this study. Therefore, he suggested that the hon. architects should, sitting as a committee for the purpose, criticise and make suggestions on the design outside the printed rules. It might be objected that his proposal would have the effect of discouraging originality or novelty in design, but he did not think so; for novelty, when good, had a certain recognisable appropriateness and fitness. It was only when it was novelty for the sake of novelty that it became a defect. He believed that in most cases architects whose training, experience, and general practice had not been in church work especially would welcome the suggestions of the Committee. In schemes for restoration there was some improvement; the great importance of the more careful preservation of their ancient churches was generally beginning to be felt, but here again they had a special branch of architecture, requiring very much experience, which did not fall in the way of all architects. He considered that the rule of the Society which gave the advising architects power to ask one or more of the members to visit

the proposed work should be more frequently exercised even in the case of less important churches. It was sometimes difficult to make any really useful suggestions by merely inspecting drawings or even photographs of the building in its actual state. In conclusion, if the hon. architects could be put into direct communication with the architects for the works, it would materially assist the good understanding between them.

The Domestic Smoke Problem.

On the initiative of Sir Henry Tanner, I.S.O. [F.], of H.M. Office of Works, the Coal Smoke Abatement Society have carried out a further and more comprehensive series of tests of fire-grates, the points to be ascertained being (1) Prevention of smoke; (2) Heating power; (3) Economy of fuel; (4) Suitability for office and household purposes. The tests took place in the new Government buildings in Great George Street, Westminster, and were conducted by a sub-committee of the Society, consisting of Dr. H. A. Des Vœux and Mr. W. H. Atkin-Berry [F.]—the latter on the nomination of the Institute—in conjunction with Sir Henry Tanner. In response to invitations, between forty and fifty grates were submitted by manufacturers, and twenty-four of these were selected for testing. The results are published in *The Lancet* for May 19. All the grates tested are fully described in the report, and the results of the various tests are given in tabular form. The committee give their findings as follows:—"As a final result of the whole of the tests the examiners find that of the grates submitted those of Messrs. J. & R. Corker, Messrs. Candy & Co., and Messrs. Hendry & Pattison (Boyd's) are the best, showing practically equal results, and that the 'Florence' (the London Warming and Ventilating Company) very nearly approximate to them." It is pointed out that all the grates were worked with the object of obtaining their utmost capacity, and not under the conditions obtaining in an ordinary room, which would generally be more variable. The fires were not allowed to burn low, therefore the amount of smoke emitted in the tests was the minimum that could be expected. *The Lancet* containing the report may be consulted in the Library.

The late Edward Salomons [F.].

By the death of Mr. Edward Salomons [F.] the Institute loses a staunch and loyal friend and a member of fifty-five years' standing. He was elected an Associate in 1851 and Fellow in 1860, and served for a time on the Institute Council. Mr. Salomons helped to found the Manchester Society of Architects, and lent all his support to the scheme for uniting the provincial Societies of Architects into one concrete body with the Institute. His own Society, of which he was twice President, was one of the first to become allied to the Institute. At the meeting last Monday,

sympathetic reference was made to his decease by the Hon. Secretary, and a vote of condolence was passed to his relatives.

Edward Salomons was born in London in 1828, and was educated in Manchester, where his father had long carried on business. He was articled to the late J. E. Grogan, and afterwards entered the office of Messrs. Bowman & Crowther. Many of the illustrations in Bowman & Crowther's *Churches of the Middle Ages* were drawn and lithographed by him. He was a water-colour artist of some merit, and his drawings of picturesque streets and buildings here and on the Continent have been exhibited in the Manchester galleries, and some of them illustrated in *The Builder*. Among his principal architectural works may be mentioned the Art Treasures Exhibition building, Manchester; Messrs. Daniel Lee & Co.'s building in Fountain Street, the Manchester and Salford Savings Bank in Booth Street, and the Prince's Theatre. He built Messrs. Agnew's Art Galleries in London and in Liverpool, a synagogue and a hospital at St. Anne's, and various private houses. He was a member of the Committee of the City Art Gallery, of the School of Art Committee, and of the joint committee for promoting a Chair of Architecture in Manchester.

Discussion on the Annual Report: Errata.

Mr. Arthur B. Plummer [F.] sends the following correction:—"In the report of the discussion on the Annual Report in the last number of the JOURNAL I am erroneously stated to have said with regard to the rejection of architects from the Newcastle district 'that they were as good as and better than any belonging to the Institute at the present time.' What I did say was 'that they were as good as many'—not any—'belonging to the Institute.'"

In the Chairman's remarks, 2nd col., p. 365, lines 6 and 7 from foot, the end of the sentence should read: "the principal came into the possession of the Institute."

REVIEWS.

DILAPIDATIONS.

A Text-book in Tabulated Form for the Use of Architects, Surveyors, &c., together with the Acts relating thereto, and Special Chapters on Ecclesiastical Dilapidations and on Fictures. By Professor Banister Fletcher. Sixth edition revised and largely rewritten by Banister F. Fletcher and H. Phillips Fletcher. 8s. Lond. 1906. [B. T. Batsford, 94, High Holborn.]

That a book should have gone through five editions, and a sixth be required, is sufficient evidence of its popularity, and no doubt value, among the members of the architectural profession whose practice lies in this direction. The present

edition is brought up to date by the joint endeavours of Mr. Banister F. Fletcher and Mr. H. P. Fletcher, both of whom have had considerable experience in this class of text-book. There is no doubt that a short and comprehensive work on this most involved subject is of the greatest use to the young practitioner, and naturally he would turn to it to gain some information as to his fees: a point on which much valuable advice might be added in the work under consideration, both as to the amounts to be charged and from whom payment might be expected—viz. whether the lessor, or the lessee against whom a schedule is made out. Naturally either party, or both, will expect to pay as little as possible, and each will try to shift the payment on to the other. In such cases the novice will be left in a certain amount of doubt, as in most other matters connected with dilapidations; even those with the wisest heads are at times involved in legal or other trouble on behalf of their clients, no matter for which side they may be acting. An improvement in the book would be a brief account of the practice in other countries. This would be an advantage to those having to deal with cases outside the United Kingdom. It is, however, easy to be critical. One can safely say that, as now revised, the sixth edition of *Dilapidations* will repay every student who gives the time required for its careful perusal.

MAX CLARKE.

PERSPECTIVE.

Architectural Sketching and Drawing in Perspective. With Thirty-six Plates, and Chapters on the Plan and Measuring Point Methods, the Simplification of Perspective by R.'s Method, and on Figures, Foliage, &c. By H. W. Roberts, Architect. 4s. Lond. 1906. Price 7s. 6d. net. [B. T. Batsford, 94, High Holborn, W.C.]

Perspective Tables for Practical Architectural Draughtsmen, with Chapters on the Principles of Linear Perspective, the Centrolineal, and Practical Hints. With Sixty Diagrams and Photographs. By Robert F. Shearer. 8s. Edin. 1905. Price 8s. 6d. net. [A. W. Sinclair, 79 Princes Street, Edinburgh.]

Draughtsmen and architectural students who are beginners in the art of drawing in perspective will find both of these books fairly useful for getting an insight into such work.

The first book is an extension of the author's previous publication upon perspective, known as "R.'s Method," and shows more fully how R.'s perspective diagrams may be used to elucidate difficult and unusual problems, as well as apply to ordinary work. The book is also a general guide to perspective drawing, and even touches upon the artistic rendering of black and white work. Those who have found "R.'s Method" of practical assistance will naturally follow it up by obtaining the present work. For training in sketching in correct perspective the method is useful; a defect, however, is the limited selection of points of view entailed in the use of the published

diagrams, those given not being always the best for the particular work in hand. In his introduction the writer says he has found perspective employed in very few offices, and if the author's publication will help to train students to realise the appearance of their designs when seen in perspective, it will be welcome as an aid in improving architectural work.

The second book is an ingenious and interesting effort to simplify the usual difficulties experienced in making a perspective drawing by a system of mathematical scales and tables, and is more especially intended for use when the drawings are of a considerable size, and the vanishing points in consequence far apart. In his introduction the author claims that the tables are the result of many years' experience and usefulness, and are both labour-saving and time-saving.

Both books are neatly got up and fully illustrated, and are interesting contributions to the literature of perspective.

GEOFFREY LUCAS.

BUILDING CONSTRUCTION.

Cassell's Building Construction, comprising Notes on Materials, Processes, Principles, and Practice, including about 2,300 Engravings and Twelve Plates. By Professor Henry Adams, M.Inst.C.E. La. So. Lond. 1906. Price 7s. 6d. [Cassell's.]

This work, which originally appeared in weekly parts, is now published in one volume of 552 pages, printed in double columns, and containing no fewer than 2,300 illustrations reproduced from line drawings, in addition to twelve coloured plates. The wide range of subjects is dealt with in twenty-two chapters, each divided into paragraphs with distinctive headings; and an exhaustive index further facilitates ready reference. Taken as a whole, the completeness and magnitude of the work command attention, and the first impression is that a large and difficult undertaking has been carried through in a clear, concise, and workmanlike manner. Unfortunately, however, it cannot be allowed that any appreciable advance has been made on the text-books previously in use, and it shares with them many shortcomings from the architect's point of view. It is no longer desirable to approach building construction as a subject complete in itself and distinct from the greater one of architectural expression of which it is the fundamental part. Construction and design are inseparable: architecture at its noblest is good construction beautifully clothed, and to understand the methods of construction and the nature of the materials to hand is to understand the architecture of the past. The study of old work never ceases to reveal this, and the conditions of modern construction are not so entirely different as to render the isolation of the practical from the æsthetic desirable, or even possible. To treat building construction as something to be masked and hidden is at variance with

the principles which have guided great builders of all time; yet in the work under consideration there is no suggestion that it concerns itself with anything more than the unsightly skeleton; and when, by chance, it is clothed, it is in forms far from pleasing. The strength of beams and girders, the stability of walls, and the stresses in roof principals make up only a small part of what is commonly understood as building construction, and in this work less than one fifth of the whole is devoted to them; but it is here that the author is on his own ground, and has done good work which cannot fail to be appreciated.

But with brick and stone and timber it is otherwise; to take one or two instances, the sash windows shown on p. 220 and on Plate VII. are badly proportioned, and the frame is set behind a reveal which obscures nearly all the woodwork externally. Text-books have a way of showing sash windows in this manner, unmindful of the strength and beauty of the seventeenth-century models which they travesty.

Bad forms like these and the so-called Queen Anne arch on Plate IV. should not be perpetuated even in books. Many of the illustrations such as the hammer-beam roof truss, figs. 960-966, have no scale; and although the parts are carefully shown in detail not a single scantling is given, so that the drawing has no practical value whatever. Nevertheless on p. 2 the student is advised to redraw the illustrations!

The plates seem to have been inserted without any reference to the text: floors come among roofs, and brick arches among masonry. This is a trifling matter which could easily be remedied, and the plate of "Orders" inserted in the chapter on Foundations might with advantage be omitted altogether.

The last section, called "Architecture, Notes and Examples," is too full of erroneous statements and indifferent illustrations to be taken seriously, and it is doubtful whether the book as a whole is of much value to the architect, while considerable discretion should be exercised before placing it in the hands of the student of architecture.

ARTHUR STRATTON.

ALLIED SOCIETIES.

The Sheffield Society of Architects.

The annual meeting of the above Society was held in their room, Leopold Street, Sheffield, on the 17th May. Mr. E. Holmes, president, in the chair.

The treasurer's statement of accounts and the auditors' report, which showed a satisfactory increase of the balance in hand to last year, were adopted, with thanks to the auditors.

The annual report of the Council, which showed

a membership of 122, being the highest number in the Society's record, was read and adopted.

The following were elected officers for the ensuing session:—President, Mr. E. Holmes; Vice-President, Mr. W. C. Fenton; Treasurer, Mr. F. Fowler; Secretary, Mr. J. R. Wigfull [A.]; Council:—Fellows: Messrs. H. Coverdale, C. B. Flockton [F.], W. J. Hale [F.], H. L. Paterson [A.], A. E. Turnall, and J. B. Mitchell Withers [A.]; Associates: Messrs. W. G. Buck, C. F. Innocent [A.], H. I. Potter [A.].

A prize of £5 5s. for the best set of measured drawings was awarded to Mr. A. W. Kenyon. The Society's prizes for the best work in the designing class were awarded as follows:—£1 1s. to Mr. J. M. Jenkinson, and £1 11s. 6d. was equally divided between Mr. J. W. Green and Mr. G. R. Bower.

MINUTES. XIV.

SPECIAL GENERAL MEETINGS.

At a Special General Meeting summoned by the Council on the requisition of twelve Fellows, and held Monday, 21st May 1906, at 8 p.m.—Present, Sir John Taylor, K.C.B., Vice-President, in the Chair; 32 Fellows (including 13 members of the Council), 35 Associates (including 1 member of the Council), and several visitors: the Chairman announced the object of the meeting and read the recommendations of the Fellowship Procedure Committee appointed by the Institute on the 5th March 1906.

The Chairman having moved in accordance with notice, it was thereupon

RESOLVED, That the Regulation under By-law 9 be amended so as to read as follows:—"The voting-papers, which shall be in the form of the voting-papers issued for the election of the Council, shall state the name and address of every candidate, with the names of his respective proposers, the year in which he was article, and, in the case of a candidate for Fellowship, the year in which he became engaged as a principal in the practice of architecture."

It was also

RESOLVED, That the Direction to Voters printed at the foot of the voting-paper should read as follows:—"1. The voter (Fellow or Associate) is to strike out in ink the name of any candidate against whom he wishes to vote. All names not so struck out will be counted as voted for."

It was further

RESOLVED, That a notice be printed in bold type at the head of the voting-paper urging the importance of the paper's being returned.

At a second Special General Meeting, held immediately following the above and similarly constituted, the Chairman moved, and it was thereupon

RESOLVED, That the Resolution of the Institute passed at the meeting of the 7th May be confirmed—viz. "That the President and Members of the Council for the current Session do retain office until the conclusion of the VIIth International Congress of Architects to be held in July, and that, in order to give legal effect to this resolution, the provisions of By-law 30 affected thereby be temporarily suspended."

ORDINARY GENERAL MEETING.

At the Fourteenth General Meeting (Ordinary) of the Session 1905-06, held Monday, 21st May 1906, following the meetings above minuted and similarly constituted, the Minutes of the Meetings held 7th May 1906 [p. 372] were taken as read and signed as correct.

The Hon. Secretary announced the decease of Edward Salomons, Fellow, and it was resolved that a letter of sympathy and condolence be sent on behalf of the Institute to the relatives of the deceased.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election—viz. AS FELLOWS (40): Charles Herbert Ashworth (Dublin); Thomas Baird, Jun. (Glasgow); Andrew Balfour (Glasgow); Robert Shekleton Balfour [A. 1893, *Institute Medallist Drawings* 1892, *Pugin Student* 1894, *Tide Priceman* 1895, *Soane Medallist* 1896]; Andrew Black (Glasgow); George Bland (Harrogate); Percival Bown (Harrogate); Walter Henry Brierley, F.S.A. (York); John Dixon Butler; John Archibald Campbell (Glasgow); Henry Edward Clifford (Glasgow); John McLean Crawford (Glasgow); Neil Campbell Duff (Glasgow); William Newton Dunn [A. 1882]; William Adam Forsyth [A. 1895]; William Venn Gough [*Glass of Proficiency Vol. Arch. Exam., formerly Associate*] (Bristol); John Hamilton (Glasgow); William Cecil Hardisty (Manchester); Frederick George Hicks (Dublin); James Kennedy Hunter (Ayr, N.B.); Arthur Blomfield Jackson [A. 1891]; Richard Croft James [A. 1896] (Bristol); William Thorpe Jones (Durham); Henry Vaughan Lanchester [A. 1889, *Queen Jones Student* 1889-90]; Charles Henry Löhr [A. 1878]; Robert Stodart Lorimer [A. 1890], A.R.S.A. (Edinburgh); Robert John Macbeth (Inverness); William F. McGibbon (Glasgow); Hugh Patrick Guérin Maule, Master of the Architectural Association Day School, *Inst. Medallist (Drawings)* 1896; Robert Miller (Glasgow); Edwin Alfred Rickards; Frederick William Roberts (Taunton); George Hanson Sale (Derby); Robert Douglas Sandilands; Alexander Skirling (Glasgow); James Alfred Swan (Birmingham); John Thomson (Glasgow); William Street Wilson [A. 1882] (Durham, Natal); William Henry Wood (Newcastle-on-Tyne); Henry Thomas Wright (Newcastle-on-Tyne). AS ASSOCIATES (4): Edwin Albert Agutter [*Probationer* 1898, *Student* 1902, *Qualified for Associateship* 1905] (Pietermaritzburg, Natal); John Barr [*Qualified Special Examination* 1905] (Lindfield, New South Wales); Ashley Florian Benjamin [*Probationer* 1902, *Student* 1902, *Qualified for Associateship* 1905]; John Tallents Wynyard Brooke [*Probationer* 1898, *Student* 1901, *Qualified for Associateship* 1904] (Manchester). As HON. ASSOCIATE: Cecil Harcourt Smith, LL.D., Keeper of Greek and Roman Antiquities at the British Museum. As HON. CORRESPONDING MEMBERS (2): Joseph Theodore John Cuypers, C.E., Architect to the Cathedral of St. Bavo, Haarlem; Member of the Royal Archaeological Commission for Description of Dutch Monuments, Architect Substitute to the Royal Museum, Knight of St. Gregory the Great, and of Oranje, Nassau; Hermann Muthesius, Dr. Ing. Geheimer Regierungsrat.

A Paper by Mr. Paul Waterhouse, M.A. Oxon. [F.], entitled "SOME OBSERVATIONS ON THE REPORT OF THE ROYAL COMMISSION ON LONDON TRAFFIC: WITH SPECIAL REFERENCE TO THE PROPOSED FORMATION OF NEW THOROUGHFARES," having been read and illustrated by the author, a discussion ensued, and a vote of thanks, moved by Sir Melville Beachcroft and seconded by Sir George Bartley, K.O.B., was passed to Mr. Waterhouse by acclamation.

On the motion of Professor Beresford Pitts [F.], seconded by Mr. E. W. Hudson [A.], the debate on Mr. Waterhouse's Paper was adjourned, and it was announced that the discussion would be resumed at the meeting of the 11th June.

The proceedings then closed, and the meeting separated at 10 p.m.



AMIFENS CATHEDRAL AND MR. GOODYEAR'S "REFINEMENTS."
A CRITICISM.

By JOHN BILSON [*F.*], F.S.A.

DURING the last ten years Mr. William Henry Goodyear, of the Brooklyn Museum of Arts and Sciences, U.S.A., has published several papers and memoirs describing certain irregularities in mediæval buildings for which he claims the distinction of "refinements," assuming them to be due not to accidental or undesigned causes, but to deliberate intention and design on the part of their builders. Mr. Goodyear's publications have been noticed in the English architectural press, but until recently they did not command very serious consideration in this country. Last September, however, an exhibition of his drawings and photographs—an "Exhibition of Architectural Refinements"—was opened in Edinburgh under the auspices of the Edinburgh Architectural Association, and as a result of this exhibition there now seems to be a disposition in some quarters to hail Mr. Goodyear's supposed discoveries as having an extremely important bearing on the history of architecture. The fact that the President and Council of the Institute, the Presidents of other architectural societies, and three or four Professors of Architecture appeared in the list of Patrons of this exhibition has been cited by Mr. Goodyear himself as evidence of their sympathetic support. How far the patronage of the exhibition by the Institute and the Professors was intended to convey acceptance of his theories, or how far it was merely an act of hospitality to a learned Professor from "the other side," it is not for me to say. We have, however, been told that the teaching of this exhibition will probably change the views of architects and archaeologists upon some of the hitherto unexplained features in the architecture of the middle ages, and I understand that some of our Scottish colleagues have received its teaching with something like enthusiasm. In these circumstances, we may well ask whether we are justified in accepting such teaching. Or am I right in believing that the chief value of Mr. Goodyear's investigations will be found in the fact that they repeatedly afford in themselves evidence in disproof of the theories which he bases upon them? The object of this paper is to give a definite answer to these questions.

Everyone who has read Mr. Goodyear's publications must have been struck by his remarkable energy and enthusiasm in prosecuting his researches. The large number of churches covered by his investigations renders it difficult to test his theories in each particular building, or to arrive at a definite and final summing-up of the whole case in a short general paper. I do not propose, therefore, to roam at large over the entire area under review. I shall confine

myself entirely to what Mr. Goodyear has written about the churches of Northern France, and almost entirely to a single typical cathedral.*

The irregularities which Mr. Goodyear claims as intentional "refinements" may be roughly divided into two classes:—

I. Obliquity of alignment in plans, including want of parallelism in walls and piers, deflections of axis, curves of alignment (stated as uncommon in mediæval churches†), and asymmetric plans generally.

II. Walls, piers, and columns out of plumb, sometimes straight, but more generally described as "vertical curves."

I do not suggest that this classification includes all the irregularities which Mr. Goodyear believes to be "refinements," but it covers the great majority of the examples noted by him in his publications, and those which it does not include are not material to the examination which is the immediate object in view.

Now, in deciding whether these irregularities are due to accidental causes or whether they are the result of deliberate intention, the facts so industriously collected by Mr. Goodyear must be considered in their relation to many other facts which bear upon and help to elucidate the history of the particular buildings in question. In speaking of oblique plans, Mr. Goodyear does indeed say that "it has been tentatively held by various high authorities that the deflected choirs of the northern cathedrals are due to building at various dates and to imperfect orientation, or joining together, of constructions of different periods."‡ But in the majority of the cases which he discusses (reference is here made to irregularities of both the above classes), he appears to treat each building as if it were the product of a single mind, constructed in a single building-campaign. For him the only alternatives to intentional construction seem to be accidental movement, or careless or inefficient construction.§ It may safely be asserted, however, that by far the greater number of irregularities in plan arises from neither of these alternative causes.

It must be borne in mind that the great majority of the larger churches of the middle ages have been built on the sites of earlier structures. Even if not a single stone of the earlier building be left standing, we may find indications of its influence in the reconstructed church, as numberless instances prove. The cardinal fact to be remembered is that the mediæval church never ceased to be used. Let us confine ourselves to the consideration of churches which are virtually of one period of building activity, and let us take a most common and simple case in which reconstruction was commenced by the erection of a new choir. The old nave would remain standing, kept in use as long as possible, and temporarily closed towards the east, until the new choir could be occupied. Then the reconstruction of the nave would be undertaken, frequently not as a whole, but in successive sections of a few bays at a time,|| each section being temporarily partitioned off until it was completed, and then thrown open to the already reconstructed portion of the building. In these circumstances, and in the absence of such instruments as would now be used, it must frequently have been a matter of great

* The following are the publications by Mr. Goodyear to which reference will be made by the short title in brackets after each:—

Memoirs of Art and Archaeology, vol. i. No. 4. "Vertical Curves and Architectural Refinements in the Gothic Cathedrals of Northern France and in Byzantine Churches at Constantinople." Published by the Macmillan Company for the Museum of the Brooklyn Institute of Arts and Sciences, 1904. [*Memoirs*.]

The Architectural Record, vols. xvi. and xvii. "Architectural Refinements in French Cathedrals." New York,

1904 and 1905. [*Architectural Record*.]

Edinburgh Architectural Association. *Illustrated Catalogue of Architectural Refinements*. Edinburgh, 1905. [*Catalogue*.]

† *Catalogue*, 6.

‡ *Catalogue*, 4.

§ *Catalogue*, 63.

|| For construction by bays, see L. Demaison, *Les architectes de la cathédrale de Reims*, in the *Bulletin archéologique du Comité des travaux historiques*, 1894, and *La cathédrale de Reims*, in the *Bulletin Monumental*, lvi. 24 (1902).

difficulty to ensure accurate setting-out, and a trifling initial error might easily lead to wide divergence and marked irregularity. And this difficulty would often be greatly increased by more complicated conditions than those simple ones just suggested, such, for example, as the building of aisle walls outside of and beyond an existing nave, the walls or arcades of which would not be taken down until these new aisle walls had been carried up, and perhaps only then taken down piecemeal as the new piers and arcades were built in sections. Is it any matter for surprise that, under such conditions, irregularities or incorrect alignments should result? Viollet-le-Duc long since gave the natural explanation.* Two of the most experienced mediæval archæologists in England and France respectively have also expressed their conviction on this subject in almost identical terms. Mr. Micklethwaite says: "The distortion of some plans for which strange and fantastical reasons have been invented, appears natural enough when we remember the conditions under which the builders worked and the difficulty which they must have experienced, with the imperfect instruments at their command, in setting out a complicated building on a site already occupied."† And M. de Lasteyrie has recently stated his opinion that, in the majority of cases, deviations of axis are the inevitable result of the conditions under which the builders of the middle ages worked, and of the imperfections of the methods at their disposal for adjusting successive constructions in vast buildings, the separate parts of which were never erected all at the same time.‡ Irregularities of the same kind as those noted by Mr. Goodyear are familiar to all architects who have devoted themselves to the measurement and analysis of plans of mediæval churches. If I may be allowed to speak from my own experience in this work, I may say that I have never found any such irregularities which could not be accounted for by common-sense building-reasons. On the contrary, irregularities of this kind often afford valuable help in elucidating the precise method and order in which a church has been built.

I have already mentioned in this JOURNAL § a story quoted by M. de Lasteyrie, which is valuable as showing how the architects of the middle ages regarded unnecessary irregularities. At Metz there is a church, built by the Celestines between 1371 and 1409, which shows a very pronounced deflection of its axis. A chronicle tells us that the architect, ashamed of having made his work so crooked, died of grief and distress.¶ It would have been a consolation to him if he had known that (according to Mr. Goodyear) oblique plans were preferred by mediæval builders "to the formalism of the rectangular plan, and on account of the optical mystification and picturesque effects resulting."*

The above remarks apply more particularly to irregularities in plan. It is equally impossible, however, to arrive at any satisfactory conclusion with regard to the irregularities included in Class II. (which Mr. Goodyear describes as "vertical curves," "widening refinements," "parallel leans," &c.) if they are to be regarded simply as isolated facts. They, too, must be considered in their relation to many other facts which go to make up the story of the structure. We must not only know the architectural history of the building in question, and the precise order in which its various parts were erected, but we must study its structure, in order to judge how far the problems of unequal loading, abutment of vaults and arches &c. have been successfully solved, and what weaknesses would be likely to develop from any defects of design and construction; we must exhaust the documentary history of the structure, from its erection to the present day, in order to ascertain what repairs, renewals or alterations have been carried out, and the reasons for their execution; and, finally, we must

* *Dictionnaire raisonné de l'architecture française*, iii. 236-7.

† *Archæological Journal*, xxxvii. 371.

‡ *La déviation de l'axe des églises: est-elle symbolique?* p. 305.

§ P. 110 *supra*.

¶ "Honteux d'avoir fait son œuvre ainsi tortue, en mourut de deuil et de tristesse." Kraus, *Kunst und Alterthum in Elsass-Lothringen*, iii. 675.

* *Catalogue*, 26.

carefully examine the building in its existing condition in order to detect any indications of movement in the fabric. Then, and only then, shall we be in a position to understand the real cause and meaning of these "refinements."

It is curious to observe how little considerations of this kind seem to have influenced Mr. Goodyear in his investigations.* In some instances, indeed, we find him naïvely stating facts, which are obviously due to considerations of structure, without seeing how completely they disprove his theories.

There is less justification, however, for his neglect of historical material ready to hand. For example, he devotes much space to a description of the deviations from the perpendicular in the nave of Notre Dame, Paris,† but he never makes any mention whatever of the important alterations which were executed in this nave towards the middle of the thirteenth century, although these alterations included a serious modification of the system of abutment, and although they have been described in detail by Viollet-le-Duc.‡ Or again, Mr. Goodyear describes "widening refinements" in the nave and aisle of Saint-Remi, Reims,§ but he says nothing whatever of its dates and construction. Yet this is a case of a nave built during the first half of the eleventh century,|| of quite remarkable dimensions for its period (with a clear width of about 44 feet, and walls over 80 feet in height), which was originally finished with a wood ceiling, but was covered with stone vaults about 1170, when the system of vaulting of its aisles was also completely altered.¶ Viollet-le-Duc tells us that these works had so affected the stability of the building as to necessitate the reconstruction of the high vaults in light materials, and the restoration of the lower parts, some years before he wrote in 1868.** Obviously it is impossible to decide whether deflections and irregularities are due to accident or intention without first carefully weighing considerations of this kind.

If the deviations from the perpendicular noted by Mr. Goodyear in the French churches are to be considered as calculated and intentional "refinements," displaying "extreme subtlety and extraordinary constructive skill and forethought,"†† and if they were regarded by the mediæval builders "as the necessary conditions to the creation of a work of art in architecture,"‡‡ surely they must have been applied with some sort of method and consistency. But this is precisely what we do not find. Let us take, for example, the observations recorded by Mr. Goodyear of the choir and nave of Notre Dame, Paris. The vaulting-shafts at the springing of the apse curve are perpendicular. The vaulting-shafts of the choir itself *converge* ("strong vertical curves leaning into the choir"). The crossing piers *diverge*, the eastern pair with a widening of 21 inches, the western pair with a widening of 12 inches. The vaulting-shafts of the nave *diverge*, with a widening of from 7 to 12 inches. The piers at the west end of the nave are perpendicular.§§ To anyone who is acquainted with the practical common-sense methods of mediæval builders, the mere statement of these erratic deviations is sufficient absolutely to forbid the idea of intentional setting-out and execution. If this is a case of optical effects being studied, in order to avoid "a contracted appearance in the upper part of a church interior,"||| why the *inward* lean of the vaulting-shafts of the choir? If, on the other hand, it is merely a case of the preference for delicate curves to

* In his account of his investigations at Amiens he gives more particulars than usual of the historical facts subsequent to the erection of the building. I shall presently discuss his interpretation of them.

† *Memoirs*, i. No. 4, 35 seq.; *Architectural Record*, xvi. 439 seq., 569 seq.; *Catalogue*, 126.

‡ *Dictionnaire*, ii. 293.

§ *Memoirs*, i. No. 4, 17, and photograph No. 19 (p. 18).

|| Commenced in 1095, and consecrated in 1049. L. Demaison, *Date de l'église de Saint-Remi de Reims* (1883).

¶ For drawings of this nave as originally constructed, see Viollet-le-Duc, *Dictionnaire*, ix. 240, and Dehio and von Bezold, *Die Kirchliche Baukunst des Abendlandes*, plate 46 (4).

** *Dictionnaire*, ix. 241, note.

†† *Catalogue*, xiv.

‡‡ *Catalogue*, viii.

§§ *Architectural Record*, xvi. 444.

||| *Catalogue*, xiv.

straight lines, why are the piers at each end of the church perpendicular? What rational motive can be suggested to account for such "refinements"? And yet Mr. Goodyear actually tells us that "as different phases of curvature," they come "under one explanation." * Such deviations can be accounted for easily enough if, rejecting the hypothesis of intentional construction, we study the structure itself. M. Choisy compares the Gothic pier to a ninepin — "une quille exposée à des mouvements de dévers; prise entre les contre-poussées de la voûte et de l'arc boutant, elle risque, si les efforts sont imparfaitement balancés, de s'incliner légèrement dans un sens ou dans l'autre." † The truth of this observation will be evident to those who have a practical knowledge of mediæval construction.

I now turn to the typical church, the cathedral of Amiens, which I have selected for a detailed examination of Mr. Goodyear's observations and theories. Mr. Goodyear names Amiens Cathedral among the most conspicuous cases of widening which he has so far observed in France, ‡ and I think it will be admitted that no better example could be chosen for testing his theories. Viollet-le-Duc calls it "l'église ogivale par excellence," § and it is generally recognised that its nave marks the culminating point of Gothic architecture. We may safely assume, therefore, that whatever methods were most esteemed by the ablest builders of the middle ages would have found their fullest expression in this acknowledged masterpiece. Mr. Goodyear suggests that the multiplicity and complexity of the phenomena which he has observed in Notre Dame, Paris, are due to the unusual care which was lavished on the cathedral of the capital of France. || This consideration applies with much greater force to the far more perfect cathedral of Amiens. Moreover, at Amiens we find an excellent illustration of real refinements of design in the careful study of the effects of perspective, as shown in the profiles of the capitals and bases in the upper part of the nave. ¶ A further reason for the selection of Amiens lies in the fact that such an examination as I propose to attempt is immensely facilitated by the recent publication of M. Georges Durand's work, ** which may be described without exaggeration as the best monograph ever published of any mediæval cathedral. I must add, too, that M. Durand has most kindly placed his intimate knowledge of the cathedral at my disposal, by answering questions which I have addressed to him on points upon which I sought further information. ††

The nave of Amiens Cathedral was commenced in 1220, and M. Durand gives reasons for his conclusion that it was completed by 1236. †‡ This first section of the work would include the vaulting of the nave, and the western arch of the crossing (15, 16). §§ From the character of the design and workmanship it would seem that this first section also included the whole of the lower part of the transept (both arms) up to and including the sculptured string below the triforium, the triforium stage on the western side of each arm, the vaulting-shafts on the western side up to the top of their capitals, and the clerestory windows next the west side of the crossing (15a b, 16a b). ||| The remainder of the western side, the corresponding parts of the eastern side, and the high vaults of the transept go with the choir.

* *Architectural Record*, xvi. 457.

† A. Choisy, *Histoire de l'Architecture*, ii. 311.

‡ *Architectural Record*, xvi. 441.

§ Viollet-le-Duc, *Dictionnaire*, ii. 530.

|| *Catalogue*, 146.

¶ Viollet-le-Duc, *Dictionnaire*, vii. 529.

** *Mémoires de la Société des Antiquaires de Picardie. Monographie de l'église Notre-Dame, cathédrale d'Amiens*, by Georges Durand; vol. i. (1901); vol. ii. (1903). Amiens and Paris. Vol. i. was reviewed in the preceding volume of this JOURNAL, p. 97.

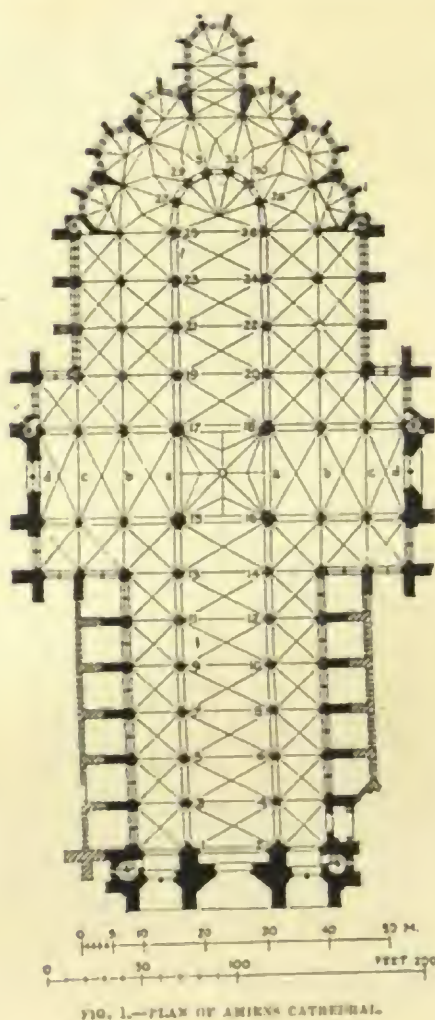
†† It is, perhaps, worth notice that M. Durand's monograph is known to Mr. Goodyear, who quotes it, both in

the *Architectural Record*, vol. xvi., and in the *Edinburgh Catalogue*. In the notes below, I have distinguished between references to M. Durand's work and unpublished communications from him which are so described.

‡‡ G. Durand, *Monographie*, i. 29.

§§ In the small plan given here for reference (fig. 1) I have followed M. Durand's very convenient system of reference (based on that often used for maps), in which the piers are numbered longitudinally, odd numbers on the north side and even numbers on the south side, and lettered a, b, c, d transversely.

||| G. Durand, *Monographie*, i. 30, 32.



The erection of the choir was probably undertaken very shortly after the completion of the nave. Bishop Arnould, who died in 1247, was buried between the two eastern piers of the apse (31, 32a).^{*} His death was followed by a pause in the work, and some damage was caused by a fire in 1258. The date of the completion of the choir is indicated by the date of 1269 in the glazing of the central clerestory window of the apse.[†] The high vaults of the choir and of both arms of the transept, the vault of the crossing and its north, east, and south arches (15, 17; 17, 18; 16, 18) appear to be practically contemporary works. In 1279 there was a solemn translation of relics in the presence of the Kings of France and England. The gable ends of the transept above the level of the aisle vaults were only closed later: that of the south transept at the end of the thirteenth or beginning of the fourteenth century, except the gable itself and the rose which are much later; that of the north transept at the beginning of the fourteenth century, except the gable itself, which was apparently never finished.

The chapels between the buttresses of the aisles of the nave (distinguished by hatching on the plan, fig. 1) were added at various dates between the end of the thirteenth century and 1375.

It is unnecessary to describe here the system of construction, for it has been admirably analysed by Viollet-le-Duc[‡] and by M. Durand in his monograph. Fig. 2 § will give a general idea of the structural system of the nave. The high parts of the choir are less carefully constructed than the nave,^{||} and the system of abutment of the choir and transept differs entirely from

that of the nave—a point to which I shall have occasion to refer presently.

It is necessary, however, in connection with the subject under discussion, to realise the vast dimensions of the building. The main spans of the nave, choir, and transept are 47 feet 10 inches in width from centre to centre of the piers of the great arcades, and 40 feet 10 inches in clear width; the height from the floor to the vault is 138 feet 9 inches. The side aisles of the nave and transept are 28 feet 4 inches in width from the centre of the piers to the inner face of the aisle wall, and 24 feet 10 inches in clear width; the height from the floor to the aisle vaults is 61 feet 8 inches.[¶] The width of the bays of the nave is 24 feet 3 inches from centre to centre of piers.

If we examine the plan of Amiens Cathedral in order to discover the "refinements" which I have enumerated above under the heading of Class I, we seek in vain. The align-

^{*} G. Durand, *Monographie*, i. 33. [†] *Ibid.* i. 37.

[‡] *Dictionnaire*, ii. 328-333; iv. 167-173.

[§] From Dehio and von Bezold, *Die Kirchliche Baukunst des Abendlandes*, pl. 599.

^{||} G. Durand, *Monographie*, i. 282.

[¶] One can, perhaps, best realise the great scale of the

church by comparing its side aisles with the main spans of some of our English churches of the second class in point of size. The aisles of Amiens have much the same dimensions of width and height as the choir of Chichester; they are higher than the nave of Lichfield, and only a little lower than Exeter, Wells, and Beverley.

ment of the axes, both longitudinal and transverse, is absolutely true, and presents no deflection whatever. The axis of the transept is exactly at right angles with the main axis of the church. In England the same thing is true of Durham, our finest Romanesque cathedral, and of Salisbury, our most complete cathedral of the thirteenth century. If obliquity of plan was ever regarded by mediæval builders as a "refinement," if they ever considered it to be an advantage "on account of the optical mystification and picturesque effects resulting,"* why do we find no trace of it in these masterpieces? Simply, I believe, because intentional obliquity of plan was entirely foreign to mediæval ideas. In connection with the practical explanation given above of such irregularities, it is worth notice that Amiens Cathedral seems

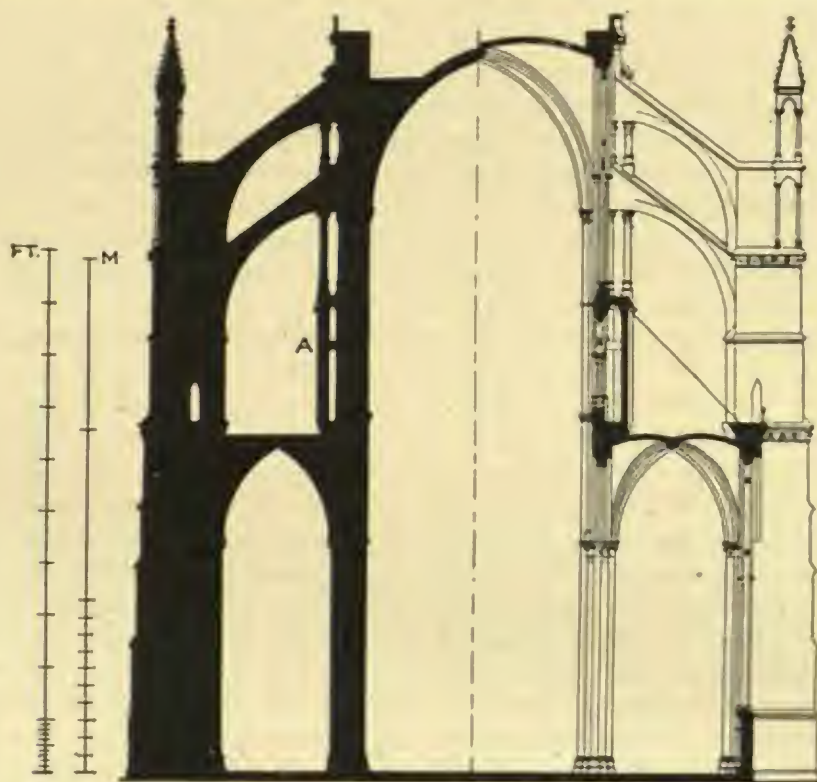


FIG. 2.—SECTION OF NAVE, FROM DEMIO AND VON BEROLD.

to have been built on a clear site,† except as regards the church of Saint-Firmin, which probably stood on the site of the north transept, and was demolished when the nave was practically finished;‡ that of Durham it is recorded that the previous church was taken down before the foundations of the new church were commenced;§ and that Salisbury Cathedral was built on an entirely new site.

The "refinements" which Mr. Goodyear has observed at Amiens came under the heading of what I have called Class II. He calls them "widening refinements," "vertical curves," and "parallel leans."|| I am convinced that they are not refinements at all, but that they are

* *Catalogue*, 26.

† Viollet-le-Duc says there is reason to believe that the plan of the chevet was decided before the nave was commenced. (*Dictionnaire*, ii. 331.)

‡ G. Durand, *Monographie*, i. 29.

§ Mr. Goodyear suggests that variations in the width of

sequent bays at Durham may have "perspective illusive purpose" (*Scribner's Magazine*, xiv. 382), a suggestion which I believe to be purely imaginary.

|| *Memoirs*, i. No. 4, 26 seq.; *Architectural Record*, xvi. 447 seq.; *Catalogue*, 119 seq.

simply the accidental results of movements which have taken place in the structure. They are precisely such results as we should naturally expect to find in a building of this character; indeed, they might reasonably have been expected to be much more pronounced had not the building been designed and executed with remarkable care and skill. Moreover, the movements in the structure to which they are due are proved both by the past history and present condition of the building.

Mr. Goodyear argues that the widening which he has observed at Amiens must be accepted as constructive, because, if it were due to accidental movement, it must have caused the collapse of the vaulting; because he thinks that he has the authority of Viollet-le-Duc for denying accidental movement to the extent involved; and because, as he thinks, the record of the repairs confirms his conclusion. It will be convenient to deal with these arguments in this order.

Mr. Goodyear estimates the total divergence at the crossing at 2.80 feet. He says that one of the piers bends into the nave about 0.20 foot, and then curves outward about 1.40 feet, which he doubles to obtain the total widening.* If, however, the piers were originally built plumb, the divergence from the vertical would be 1.20 feet, giving a total widening of 2.40 feet, which amounts to about *one-sixteenth* of the original clear span. Mr. Goodyear says that no vaulting could spread to this extent without collapsing.† Assuming for the moment that his figures are correct, I venture to think that his conclusion is more than doubtful. Movement to this extent would no doubt be serious, but if it were gradual, and if the abutments remained rigid when the given extent of widening had been reached, there would, I think, be no question of the collapse of the vault.‡ It is unnecessary, however, to discuss this point, for, as I shall presently show, we have definite evidence to prove that the extent of the divergence is nothing like so great as Mr. Goodyear believes it to be.

Mr. Goodyear quotes § the following passage from Viollet-le-Duc:—"Cependant cette nef, dont la hauteur est de 42m. 50 sous clef, et la largeur d'axe en axe des piles de 14m. 60, ne s'est ni déformée, ni déversée. La construction n'a subi aucune altération sensible; elle est faite pour durer encore des siècles, pour peu que les moyens d'écoulement des eaux soient maintenus en bon état."|| As this passage occurs in a volume of the *Dictionnaire* which was published in 1859,¶ and as Viollet-le-Duc was in charge of the works at the Cathedral from 1849 to 1874, Mr. Goodyear concludes that Viollet-le-Duc was not aware of the vertical divergence which he (Mr. Goodyear) has observed. But, in spite of what Mr. Goodyear has written about this nave, the divergences from the perpendicular are so slight that they are inappreciable to the eye, and they may therefore quite well have been considered by Viollet-le-Duc as a negligible

* *Architectural Record*, xvi. 450; *Memoirs*, i. No. 4, 27.

† *Architectural Record*, xvi. 462.

‡ I give two examples which have recently come under my personal observation:—

The north aisle of the nave of Blyth Church (Nottinghamshire) is covered with unribbed groined vaulting, dating from the end of the eleventh century. The outer wall of the aisle, which afforded an insufficient abutment to the vault, has been thrust irregularly out of plumb, and there can be no possible question of "refinement" here. The widening, which, be it noted, is due to movement on one side only, amounts in one part to *one-thirteenth* of the original span. The curves of the transverse arches and of the vault surfaces are much distorted, and the latter are cracked; but the vaulting still stands, and there is no danger of its collapse. It is scarcely necessary to remark that a groined vault on semi-circular arches is far inferior in point of elasticity to a ribbed vault on pointed arches.

In the middle bay of the eastern aisle of the south transept of Beverley Minster, the aisle wall leans outward, owing to the thrust of the vault on a wall with a defective foundation which has been underpinned in modern times. The movement is quite local, for at each end of the aisle the wall is practically plumb. The widening at the springing of the vault, which is due to movement on one side only, amounts to about *one-nineteenth* of the original span. The transverse and diagonal ribs exhibit scarcely any perceptible distortion, though when carefully examined they show a slightly broken line between the ribs and their *tas-de-charge*. There are some very slight cracks in the plastered surfaces of the vault cells, though these latter may have been repaired.

§ *Architectural Record*, xvi. 462; *Catalogue*, 120.

|| *Dictionnaire*, ii. 330. Mr. Goodyear's quotation ends with the word "sensible."

¶ Mr. Goodyear says 1867. (*Architectural Record*, xvi. 462.)

quantity. He was perfectly aware, however, that the piers of the crossing had buckled, for, in his first report of 24th September 1849, written at the time when he was assuming the direction of the works at the Cathedral, he speaks of it in these words:—"Dès 1497, on avait jugé nécessaire de chaîner les quatre piles de la croisée au niveau du sol du triforium; en effet ces piles s'étaient courbées et se séparaient du corps de la construction . . . (Ce chaînage) ne paraît pas inutile. Il semble même que ce mouvement ne soit pas complètement arrêté, car en 1806 on fut obligé de soutenir au moyen d'étriers en fer reliés à la charpente une des nervures de la grande voûte de la croisée."* He speaks of the buckling of these crossing piers in the same volume of his *Dictionnaire*, in an article† to which Mr. Goodyear himself refers.‡ In the same report he refers to the insufficient buttressing of the straight part of the choir, and says:—"Ceux de ces arcs boutants qui ne se trouvent pas dans la partie circulaire du chevet, se sont relevés par suite de la poussée des hautes voûtes du chœur. Ils ont dû être alors doublés au XVe siècle."‡ He says the same thing in the first volume of his *Dictionnaire*, published in 1858,§ and he adds more on the same subject in a later volume, where he says:—"Cette vaste construction a conservé son assiette, et les mouvements qui ont dû nécessairement se produire dans une bâtisse aussi étendue n'ont pu en altérer la solidité."|| The authority of Viollet-le-Duc, therefore, hardly supports Mr. Goodyear's theories, and it becomes simply a question of the extent of the movements to which Viollet-le-Duc referred. On this point I shall presently show good reason for believing that Viollet-le-Duc was much more accurately informed than is Mr. Goodyear. Indeed, I cannot but think that if Viollet-le-Duc had lived to read Mr. Goodyear's writings, he would have been the first to defend Robert de Luzarches from the charge of deliberately building his piers out of plumb.

Let us now turn to the records of the repairs which have been executed in the Cathedral since its completion.

In 1498 a series of iron ties was inserted along the floor of the triforium, extending from the façade along each side of the nave, around the transepts, and on each side of the choir up to the springing of the apse.¶ Mr. Goodyear states that these ties were inserted "in order to stay the great piers at the crossing, which were thought to be bulging inward under the weight of the tower,"** and in a footnote he gives references to Viollet-le-Duc and M. Durand's *Monographie*. Viollet-le-Duc did indeed imagine that the weight of the central tower was the cause of the mischief, and he says that the ties were inserted "pour arrêter le bouclement des quatre piles de la croisée, fatiguées par la charge de la tour centrale, avant l'incendie de cette tour";†† but he was misled by the idea that there was a stone tower over the crossing. M. Durand has proved that this was a mistake, and that the *clocher central*, like its successor, was a timber structure.‡‡ However, the passage from M. Durand's work to which Mr. Goodyear refers in his note says nothing of the weight of the tower; it reads—(the crossing piers) "bouclaient, sollicités par la poussée des voûtes des bas côtés et des grandes arcades,"§§ and this, as we shall see, was the opinion of the experts who inserted the ties. Mr. Goodyear's phrase, "*were thought to be bulging inward*," would seem to indicate that he thinks that the experts of 1498 were mistaken. In view of the importance of this point in its bearing on his theories, it will be well to consider the recorded facts in some detail.

In 1464 the Chapter were asking for contributions toward the work of the fabric of the Cathedral, which was in need of great and costly repairs.¶¶ On the 14th March, 1497-8, by

* Communicated by M. Durand.

† *Dictionnaire*, ii. 404, note 1.

‡ *Architectural Record*, xvi. 463.

§ *Dictionnaire*, i. 72. See also iv. 179.

|| *Dictionnaire*, iv. 173.

¶ *Ibid.* ii. 404; G. Durand, *Monographie*, i. 205-6.

** *Architectural Record*, xvi. 463; *Catalogue*, 121.

†† *Dictionnaire*, ii. 404, note 1.

‡‡ G. Durand, *Monographie*, i. 512.

§§ *Ibid.* i. 61.
¶¶ "*Ecclesia prædicta, prohi dolor! maximis et sumptuosius indiget reparationibus.*" G. Durand, *Monographie*, i. 53, and note 1.

order of the Chapter, a commission composed of master Colart de Haudrechies, master Pierre Tarisel, master-mason, and master Pierre Blanc Regnier, master-carpenter of the fabric, Adrien de Hénencourt, the dean, Mathieu Vualquin, canon and cellarer, Pierre Damas, canon and master of the fabric, and several others, inspected the Cathedral to examine the situation, and to suggest means of meeting it.* The report of the commission says that "the four principal pillars of the crossing of the said church are bent and arched on both sides by the thrust of the aisle vaults, and even the walls next these pillars are broken and open in consequence of the said thrust; and in like manner the said walls are broken towards the great doors of the said transept at like height."† This report describes precisely the state of things as it exists to-day. The cracks in the masonry of the spandrils of the great arcades show clearly enough in the bays next the crossing piers (13, 15a; 14, 16a; 15a b; 16a b; 17a b; 18a b; 17, 19a; 18, 20a), next the transept gables (15c d; 17c d; 16c d), and next the west end (1, 3a; 2, 4a).‡ The commission recommended the insertion of anchor bars of Spanish iron of good thickness, extending from the crossing to the extremities of the nave, choir, and transepts. As, however, this work would be too costly if executed entirely in Spanish iron, they suggested that the connecting pieces might be of oak, previously steeped in water for three months to preserve it from worm, and connected together by iron bands, pins, spikes, and cramps; and in order to keep them rigid they were to be fixed to the masonry at intervals by square iron spikes driven in to a depth of 6 or 8 inches. This plan was approved by the Chapter on the 16th March, and the cellarer was ordered to provide the necessary wood from the Chapter's forests. Probably, however, doubts were expressed as to the efficiency of wood for the purpose, for on the 25th March there was a further visit of a much larger commission, consisting, besides those who were on the previous commission, of further church dignitaries, the King's provost and the King's receiver at Amiens, two more carpenters, and two smiths. This commission confirmed the previous report as to the mischief, and decided that it was necessary to anchor the four crossing piers as before recommended, but that the anchors should be of good Spanish iron, and not of any other iron or wood. There was some difficulty in obtaining Spanish iron owing to the fact that France was then at war with Spain, but the Chapter found merchants who agreed to provide it in exchange for a certain quantity of corn.§ The work was then executed as we see it to-day.¶

About the same time some very important and difficult works of repair were executed in the choir. The first pier beyond the crossing on the north side (19a) threatened ruin, and in 1497 it was rebuilt, together with the *doubleaux* and vaults which it supported. In 1503 similar but less important works were carried out to the next two piers (21a, 23a). These repairs followed a report, dated 26th April, 1503, by Pierre Tarisel and other experts, including the master-masons of Corbie and Saint-Riquier.¶ Indications of these repairs are

* G. Durand, *Monographie*, i. 61, 62.

† "Primes, les quatre pillers principaux de la croisée de ladite église sont ploïés et archonnés d'un costé et d'autre par les boutures des premières vaultes, et meismes les pans de murs auprès d'iceux pillers sont rompus et ouvers à cause desdites boutures, et pareillement lesdits pans de murs sont rompus vers les grands porteaux de la nef de ladite croisée d'icelle église à pareille hauteur," &c. (*Bibl. d'Amiens*, MS. 563, fol. 226. Communicated by M. Durand.) *Archoner*, courber en arc, faire ployer. *Bouture*, entraînement, impulsion, agitation. (Godefroy, *Dictionnaire de l'ancienne langue française*.)

‡ They can be seen in M. Durand's photographs, Plates x. and xi., and fig. 8 (i. 72).

§ G. Durand, *Monographie*, i. 61-63.

¶ The ties are described in detail and illustrated in G. Durand, *Monographie*, i. 205-6.

¶ The report says: "il est besoing et nécessité de réparer les deux pilliers estant au chœur du côté senestre d'icelle église, enanivint iceluy qui a esté réparé auprès d'iceux deux pilliers, c'est assavoir de arcs doubleaux et ogives par dedens ledit chœur, pour le soutènement des vaultes, et par dehors est nécessité de faire à chacun d'iceux deux pilliers un arc boutant du pareille façon et forme, comme il a esté fait audit pillier réparé, et pour ce faire, il faut monter et lever le grant hourt, pour réparer lesdits deux pilliers, et pour le soutènement desdites vaultes." (G. Durand, *Monographie*, i. 60.)



Photo, G. Harcourt, Amiens.

FIG. 3.—FLYING BUTTRESSES ON SOUTH SIDE OF CHOIR.

still visible in the building. The flamboyant boss of the vault of the bay 17, 19a b, shows that this vault was reconstructed. Above the pier 19a, immediately below the triforium string, the three vaulting-shafts are clasped by an iron collar, which is attached by two hooks

to the wall at the back of the triforium.* There can be little doubt that the strengthening of the flying-buttresses of the straight bays of the choir was effected at this time; probably the flying-buttress to the pier 19a was dealt with first, in 1497; then those to the piers 21a and 23a in 1503, followed by those to all the other piers (25a, 20a, 22a, 24a, and 26a).† The strengthening of the flying-buttresses is described in detail in M. Durand,‡ and is well shown in the photograph here produced (fig. 3). The original construction is shown by the furthest flying-buttress in the photograph, those to the apse remaining unaltered. Unlike the double flying-buttresses of the nave (fig. 2), those of the choir were single, the space between the arch and the coping being filled with pierced tracery. This construction was, as Viollet-le-Duc has explained, too weak for its work, the result being that "les arcs-boutants se soulevèrent."§ Pierre Tarisel added, below the arch of each of the original flying-buttresses, another arch of greater radius, in order to strengthen them to resist the thrust of the high vaults.|| It is for Mr. Goodyear to explain how the partial failure of these flying-buttresses, and the necessity of undertaking the difficult task of strengthening them, can be reconciled with his theory that the deflection from the perpendicular which he notices in the choir are intentional "refinements." The fact that, so far as I can discover, he has never mentioned these works in the choir in any of his publications affords an illustration of his method of neglecting historical evidences which happen to conflict with his theories.

Pierre Tarisel, who was principally responsible for the works referred to above, is described by M. Durand as a capable man, who enjoyed a very great reputation not only in Amiens, but in other places. He was master-mason of the Cathedral from before 1482 to 1503 at least, and probably until his death in 1510. He was master of the masons' works of the King at Amiens from before 1474, and master-mason of the town of Amiens from 1464. In 1475 he was sent for to Noyon to advise on the cathedral there, which threatened ruin in certain parts.¶ In 1477 he was employed by Louis XI. at Arras. In 1493-4 he advised the Chapter of Saint-Omer on the restoration of the tower of their church. In 1499 he appears on a commission for the reconstruction of the Pont Notre Dame at Paris. There is, however, another fact concerning him which is much more important in relation to the question under discussion. The works of the cathedral of Beauvais were being recommenced by the erection of the transept from the designs of Martin Cambiche, who had worked at Sens Cathedral and had commenced the great portal of Troyes Cathedral. Cambiche himself was therefore an architect of considerable experience. The first stone of the south transept of Beauvais was laid on the 21st May, 1500, and the north transept was built between 1510 and 1537. In 1500 the plans of Martin Cambiche were submitted to Pierre Tarisel.** Mr. Goodyear cites Beauvais as a well-defined instance of "widening"; †† he tells us that the widening of the choir is not less than 3 feet, and that the widening in the transepts is more than in the choir.‡‡ So we have this curious fact, that Pierre Tarisel, who had executed at Amiens the costly and difficult work of inserting iron ties all around the cathedral in order to arrest the

* G. Durand, *Monographie*, i. 61. The collar can be seen in the photograph, fig. 8 (i. 72).

† *Ibid.* i. 61. ‡ *Ibid.* i. 288, and Plates xix. and xx.

§ *Dictionnaire*, i. 72, and fig. 62.

|| Several of these flying buttresses were more or less restored during the nineteenth century. (G. Durand, *Monographie*, i. 288.)

¶ Mr. Goodyear describes Noyon Cathedral as the most important building, so far observed in France, for proof that vertical curves were employed for their own sake and without reference to a widening (*Memoirs*, i. No. 4, 62). He does not, however, mention the following facts. All the vaults of the nave were reconstructed after the fire of 1290.

The vaults of the transepts were reconstructed during the fourteenth and fifteenth centuries. The crossing vault fell in 1462, and was rebuilt. The works on which Pierre Tarisel advised were the reconstruction (*en sous-œuvre*) of four piers of the choir which had failed (two on each side of the straight part), and the restoration of the flying-buttresses of the nave. (E. Lefèvre-Pontalis in the *Guide du Congrès de Beauvais*, 1905; *Société française d'archéologie*.)

** G. Durand, *Monographie*, i. 59, and note 3.

†† *Architectural Record*, xvi. 441.

‡‡ *Memoirs*, i. No. 4, 60. In the *Catalogue*, 125, Mr. Goodyear says that the divergence is not less than 3 feet in the transepts, and less in the choir.

movement in the crossing piers and prevent their developing further "refinements," who had also underpinned one of the piers of the choir, and strengthened its flying-buttresses in order to prevent the development of the "vertical curves" caused by insufficient abutment of the thrust of the vaults, was the expert called in to advise on the plans of the transept at Beauvais, which its architect, according to Mr. Goodyear, actually built with a widening even more pronounced than that which his adviser had been doing his best to arrest at Amiens.*

M. Durand thinks that the works described above formed part of a general restoration of the cathedral of Amiens, commenced in the course of the fifteenth century, and completed about 1525 or 1526.† He gives details of many subsequent repairs, of which the most important were perhaps those of 1627,‡ and of 1761-2.§ We may pass on, however, to the more significant records of the early part of the nineteenth century.

A hurricane of 1800, which did some damage to the Cathedral, and especially to the *flèche*, was supposed to have caused a settlement of the vault over the crossing, and of the north-east crossing pier (17*a*), though, as M. Durand remarks, this settlement was probably of much older standing. The more pressing repairs were carried out by the builder, Bruno Vasseur, from 1804 to 1806. "This man, daring and full of zeal for the preservation of the edifice, having noticed that 24 feet of arch under the vault of the crossing had dropped three inches and threatened to fall,|| had the courage to stop the progress of the mischief by securing them with four iron collars."¶ Mr. Goodyear appears to think that the movement here described was a settlement of the entire vault over the crossing, causing the crown to drop 3 inches, which he speaks of as the extreme amount of depression which has occurred in the nave (*sic*) vaulting at Amiens.** This does not seem to me to be a correct interpretation either of the text quoted above, or of the evidence of the repairs afforded by the vault itself in its present condition. I believe that what had actually happened was that certain voussoirs of the ribs of the vault had dropped to a sufficient extent to show a break of 3 inches between them and the adjoining voussoirs which had not so dropped. This opinion is confirmed by the arrangement of the collars shown in the accompanying plan of the vault of the crossing (fig. 4), which is further illustrated by a photograph (fig. 5) which I have had specially taken for this paper. There are six of these iron collars in all. Four of them are around the ridge ribs (EF and MN) between the western and eastern crossing arches and the bosses nearest to them, at J, K, L, and N. To the soffit of the rib between the two collars J and K, and between L and N, are fixed stars cut out of sheet iron (one on each rib), which appear to date from this repair. Bruno Vasseur has also written his name along the rib FG. The other two collars are at X, O, around the south-eastern diagonal rib AG. All these collars appear to be attached to the timbers which form the base of the *flèche* over the crossing. There are several cracks in the panels of the vault, the principal of which †† are approximately shown by the dotted lines on the plan (fig. 4).

In 1805 Sambucy, *ingénieur des ponts et chaussées*, reported on the condition of the Cathedral. He was dismayed at the frightful dilapidations which he had noticed. Many

* The choir of Beauvais was commenced in 1247. It was scarcely finished when its vaulting failed, and was reconstructed in 1272. In 1284 a great part of the vaulting fell a second time; the works of repair lasted forty years, and included the doubling of the number of bays by the addition of intermediate piers. After the erection of the transept in the earlier part of the sixteenth century a tower was erected over the crossing, which fell in 1573. It would only be matter for surprise, therefore, if deviations from the vertical were not to be found both in choir and transept.

† G. Durand, *Monographie*, i. 63.

‡ *Ibid.* i. 77.

§ "... que vingt-quatre pieds d'arche sous la voûte du grand clocher s'étaient surbaissés de 8 centimètres (3 pouces) et menaçaient une chute prochaine . . ." (*Ibid.* i. 165.)

¶ "Colliers de fer," i.e. iron collars, or straps, not cramps, as Mr. Goodyear calls them. (*Architectural Record*, xvi. 462.)

** *Architectural Record*, xvi. 462.

†† These can be plainly distinguished in the photograph from which fig. 5 is reproduced.

§ *Ibid.* i. 85.

pillars were separated from the vaults, threatening immediate danger; much of the leadwork required renewal, and the roof-coverings also needed renewal in many places. In the least

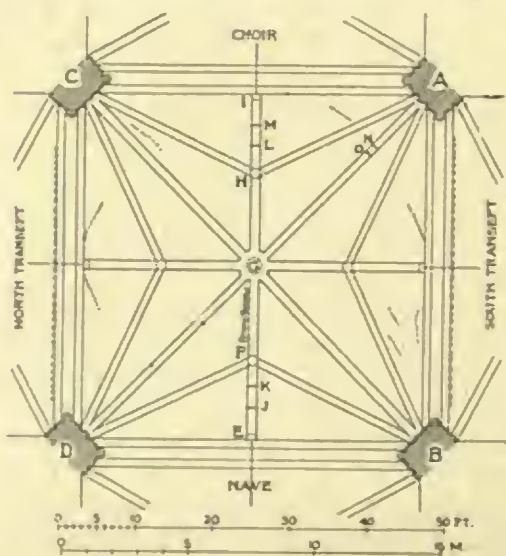


FIG. 4.—PLAN OF VAULT OF CROSSING.

storm the Cathedral was flooded (*inondée*) by the water which leaked through the roof, and found its way through the numerous openings which existed in the vaulting.* It was in this year (1805) that the works of repair were seriously commenced. Grandclas, the *ingénieur en chef des ponts et chaussées* of the department, was instructed by the prefect to examine minutely the Cathedral, and to report on the principal repairs required. In this report (28th October, 1805) he speaks of "a movement of the walls of the nave, within and without, so that in several bays the vaults are separated from the walls in such a disturbing manner that in many places it is possible to put the hand between the *ogive* and the wall; cracks are visible in the walls, arches are dislocated, stones broken, &c." He described the movement as only partial and recent, and he attributed it to the neglect of the Cathedral during

the Revolutionary period, and to hurricanes, especially that of 1800. He considered that the movement was going on, though only slowly, and in order to stop it he proposed to insert tie-rods across the nave above the vaults. M. Durand remarks that this part of Grandclas's report seems exaggerated, and that the movement which he had noticed was of very old standing.† Possibly the engineer may have intentionally somewhat exaggerated the mischief to obtain the necessary funds; indeed he found it necessary to write a letter to reassure those who feared that the Cathedral was in danger of falling (1806). However, the works which he recommended were carried out, and six strong iron ties, which still exist, were inserted, three over the choir, and three over the nave, in the bays nearest to the crossing.‡ Moreover, in spite of the large sums of money expended in repairs during the first half of the nineteenth century, to say nothing of the restoration under Viollet-le-Duc between 1849 and 1874,§ the structure still shows some indications of the dilapidations described by Sambucy and Grandclas. Numerous cracks can still be seen in all the vaulting, of the nave, choir, transept, and aisles. Many of the flying-buttresses were restored during the course of the nineteenth century. One of the lintels over the columns under the flying-buttresses of the choir bears the date 1838.¶ In the nave some of the lintels *a* (fig. 2) are broken,¶ which, of course, could not have happened if there had been no movement in the structure.

These historical evidences are amply sufficient to demonstrate the nature of the movements which have taken place in the building; and there is nothing in these movements which need surprise anyone who has studied the problems of mediæval construction, so admirably analysed by Viollet-le-Duc in the article "Construction" in his *Dictionnaire*.** Let us now see what evidence is afforded by the present condition of the building as to the precise character and extent of these movements.

* G. Durand, *Monographie*, i. 158, note 8.

† *Ibid.* i. 159, and note 4.

‡ *Ibid.* i. 160.

§ The restorations carried out between 1850 and 1877

cost about £76,000. (*Ibid.* i. 191.)

¶ *Ibid.* i. 171, note 5.

** *Dictionnaire*, vol. iv. See especially pp. 55, 56, and

¶ *Ibid.* i. 222, note 1.

65.

NORTH TRANSEPT



Photo. G. Hequet, Antwerp.

FIG. 5.—VAULT OF CHOIRING.

CHOIR

NAVE

SOUTH TRANSEPT

To begin with the crossing piers, which in a church of such dimensions are the most delicate parts of its structure. As M. Durand well says—"In order to support the vault of the crossing, it was a question of carrying up to a height of more than 33 mètres, without being able to stay them, piers solid enough to resist the united thrusts of the longitudinal arches of the nave and transept, without giving them a bulk which would unduly obstruct the centre of the building, and without destroying the lightness of its lines. This was evidently the weak point of the system, and consequently it became necessary at the end of two and a half centuries to secure these piers by strong iron ties, which have been, and will long be, sufficient to avoid any danger."* These piers, which are 109 feet in height from the floor to the top of their capitals, are composed of sixteen attached shafts, forming on plan a square of 7 feet 6 inches, placed diagonally, and, as the walls are almost entirely suppressed, the piers preserve much the same bulk for their whole height. At a height of 48 feet above the floor spring the arches of the great arcades and the aisle vaults, and here the piers are subjected to powerful thrusts which tend to cause them to buckle inwards in the manner so graphically described by the experts of 1498. More than 60 feet higher they have to withstand the thrusts of the vault over the crossing (about 45 feet square) and of the adjoining high vaults, which tend to push the piers outward, and so produce those "widening curves" which Mr. Goodyear believes to be the result of intentional construction.

What is the extent of this "widening" of the crossing piers? In the *Edinburgh Catalogue*, Mr. Goodyear says: "The total divergence at Amiens has been plumbed, and is about 2·80 (feet), or 34 inches, throughout the nave and choir."† He tells us elsewhere how this plumbing was taken. A plumb-line was dropped through an opening in the vaulting near the south-west pier of the crossing (16a), and by sighting on this plumb-line this pier was found to bend into the nave about 0·20 foot, and then to curve outward about 1·40 feet. "The total divergence would thus be about 2·80 feet."‡

We are fortunately in a position to test the accuracy of these observations. M. Durand has found in the office of the Cathedral works a drawing of the southern arch of the crossing (16a, 18a), made during the time that Viollet-le-Duc was in charge of the Cathedral, at some time between 1850 and 1870. The drawing is to the very large scale of 5 cm. per mètre (one-twentieth actual size), and the piers are therefore represented on the drawing by a height of more than 5 feet. M. Durand informs me that the drawing is executed with a care and precision in which he has every reason to place the greatest confidence. On this drawing the extent of the movement of the two southern piers of the crossing (16a and 18a) is indicated by ordinates (shown by red lines) from perpendicular lines (also in red) on two faces of each pier. The lengths of the ordinates are figured on the drawing in all cases, and it is fair to presume that they were plotted from actual plumbings. Thanks to the kindness of the *architecte-inspecteur* of the Cathedral, I have obtained a tracing of this drawing, but as the divergences from the vertical would be imperceptible if it were reduced to any size practicable in these pages, I have redrawn the profiles of the piers to a horizontal scale of ten times the vertical scale (fig. 6). The ordinates and heights figured in decimals of a mètre are reproductions of the figured dimensions on the original drawing. The extreme divergence from the vertical, that of the northern face of the south-east pier (18a), is 0·125 mètre, or 5 inches, against Mr. Goodyear's estimated plumbing of 17 inches. I would venture to suggest that, in any future publications of his investigations, Mr. Goodyear should clearly distinguish between actually measured plumbings and plumbings only estimated by sighting, for it is evident that,

* G. Durand, *Monographie*, i. 225.

† *Catalogue*, 119.

‡ *Memoirs*, i. No. 4, 26; *Architectural Record*, xvi. 450; *Catalogue*, 121.

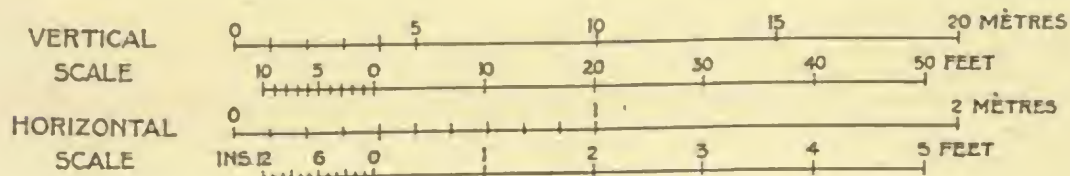
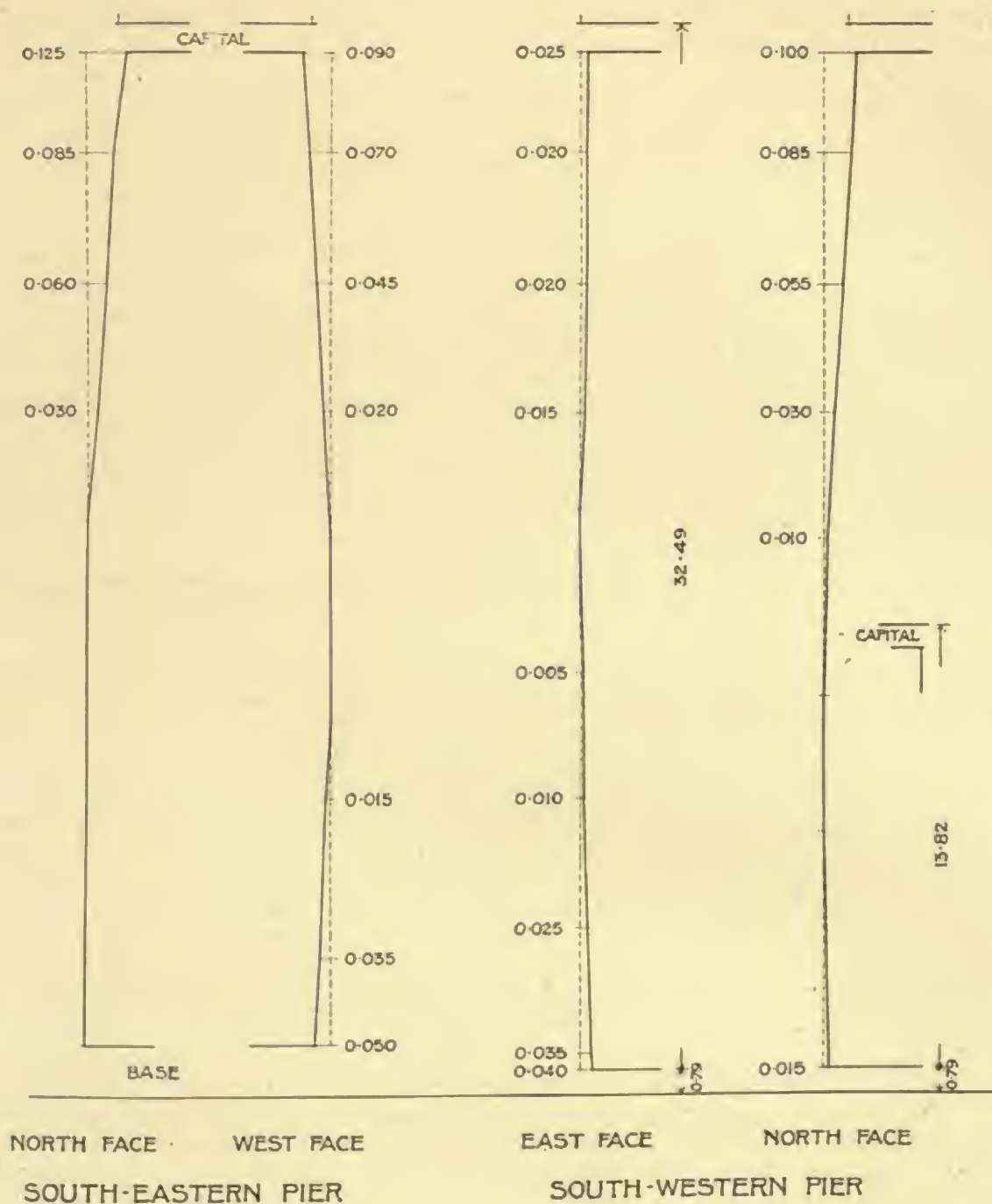


FIG. 6.—PROFILES OF SOUTHERN PIERS OF CROSSING.

in considering the latter, we must allow for a "margin of error" considerably in excess of that which he has noted in mediæval cathedrals.

Let us consider a little more closely the divergences from the vertical shown on this drawing. The northern face of the south-east pier (18a) rises vertically to about the level of the apex of the great arcades, and from this level upward it has been thrust outward by the high vaults to the extent of 5 inches. The western face of this pier has been thrust inward by the choir arcade and aisle vault to the extent of 2 inches; above it recedes to the extent of $3\frac{1}{2}$ inches, its face at the capital being thus $1\frac{1}{2}$ inches behind its face at the base. The eastern face of the south-west pier (16a) has been thrust inward by the nave arcade and aisle vault to the extent of $1\frac{1}{2}$ inches; above it recedes to the extent of 1 inch, its face at the capital being thus slightly in front of its face at the base. The northern face of this pier has been thrust inward very slightly (about $\frac{1}{2}$ inch), and above it recedes to the extent of 4 inches,* so that its face at the capital is about $3\frac{1}{2}$ inches behind its face at the base.

If any architect who reads the above should still entertain any doubt as to these deflections being the result of accident and not of design, I think that his doubt might be removed if he were to make himself a large-scale drawing from the ordinates figured on fig. 6. The profiles of the piers cannot properly be described as "curves" at all; rather, they are broken lines which are the perfectly natural result of the movements which have caused them. This remark is equally true of the deflection of the piers in the choir of Westminster, which is indicated by a dozen ordinates figured on Mr. Sydney Vacher's fine drawing.† In this particular instance the aisle vault has thrust the pier inward to the extent of 2 inches; above it recedes to the extent of 6 inches, giving a net divergence from the vertical of 4 inches in a height of about 76 feet from floor to capital of vaulting-shaft. The divergence here is therefore a little greater in proportion to the height than the extreme divergence of the southern piers of the crossing at Amiens, as figured on the drawing.

From the figures given above, it will be noticed that the divergence from the vertical in the southern piers of the crossing at Amiens is greatest towards the south; 5 inches in the south-eastern pier, and $3\frac{1}{2}$ inches in the south-western pier. In connection with this southward movement, it is important to observe that the high vault of the south transept has parted from the southern arch of the crossing, a fact which is proved by the existence of pronounced cracks in the vault-filling, next the southern side of the crossing arch. This is true also of the north transept.‡ This separation of the transept vaults from the crossing arches proves that the whole upper part of the north transept has moved toward the north, and of the south transept toward the south. This parting does not exist between the choir vault and the eastern arch, nor between the nave vault and the western arch, and the ordinates figured on the drawing show that the deflection of the two piers eastward and westward respectively is only very slight.

The movement in the crossing piers and in the transepts, which is thus proved beyond the possibility of dispute, is quite sufficient to account for the "refinements," which Mr. Goodyear has observed in the transepts.§ There is no necessity, therefore, to discuss

* Although I am not inclined to place much reliance on photographs in a question of this kind, it is perhaps worth remark that the divergence calculated from the excellent photograph reproduced in M. Durand's Plate ix. agrees very closely with this measurement from the drawing.

† *Architectural Association Sketch Book*, new series, vol. xi. (1891), plate 18. Second bay, north side of choir, east of crossing.

‡ These cracks are indicated by dotted lines on fig. 4, and they are distinctly visible in the photograph from which fig. 5 is reproduced.

§ This movement also accounts for the "parallel leans" (i.e. leans in the direction of the length of the wall) of the triforium shafts, which Mr. Goodyear says "are carried out in a rather half-hearted manner," and are, quite naturally, "confined to the triforium bays which adjoin the great piers." (*Architectural Record*, xvi. 455.)

these in detail, but there are two points which must be noticed: the supposed tapering of the piers, and the so-called leaning mullion. In connection with the "widening refinements" in the transept arcades next the crossing (which are simply the result of the movements described above—movements which are more pronounced in the transepts than in any other part of the church), Mr. Goodyear states that the four piers of the transepts which adjoin the crossing (15*b*, 16*b*, 17*b*, 18*b*) have an outward lean on one side of the pier, and are closely perpendicular on the other side of the pier; "these piers are consequently tapered about 0·30 (feet)." * If this tapering of the piers could be established, it would certainly lend some apparent support to Mr. Goodyear's theories. The great height of these piers renders it impossible to measure them at the top without scaffolding, but I have had the circumference of one pier (15*b*) measured at its base, and again midway in height between the base and the capital. The measurements were taken very carefully with a steel tape, and at both heights the girths are precisely 6·25m. The pier, therefore, *does not taper*. This is probably another instance of Mr. Goodyear being misled by "sighting" plumb-lines; but it is sufficient to raise a doubt as to the accuracy of other observations obtained in this manner. Of the leaning mullion of the window 13*a b* † (if it really does lean), it is only necessary to remark that leaning mullions are by no means uncommon next crossings or central towers, or in other positions where thrusts or unequal loading have caused settlements. The leaning mullion at Amiens is only "sympathetic" (to use Mr. Goodyear's phrase) with the leans in the piers in the sense that both are due to the same movement in the structure.

The "widening" of the nave of Amiens is stated by Mr. Goodyear to be 33 or 34 inches, but as this estimate is based on his "sighted" plumbing of the crossing piers, it need not detain us further. It is probable that some movements corresponding with those of the crossing piers have taken place in the nave, caused by the thrust of the aisle vaults inward, and by the thrust of the high vault outward, but the divergences are so small that they are not appreciable to the eye, and whatever may be their precise extent they are certainly not greater, and most probably are much less, than those of the crossing piers. That some movement has occurred in the nave is proved by the breaking of the lintels λ (fig. 2) mentioned above, by cracks in the enclosing wall at the back of the triforium,‡ and by cracks in the vaulting of the nave and aisles. Movement in the choir is conclusively proved by the historical evidences quoted above. Mr. Goodyear gives a series of actual plumbings in the triforium of the nave and choir,§ which show that the thin enclosing wall at the back of the triforium and the piers of the triforium on the north side lean outward to the north, and on the south side lean outward to the south, which is precisely what we should expect on structural grounds. The extent of the lean, in a plumb-line 15 feet high, varies, in the choir, from half an inch to about 2½ inches in the wall (averaging less than 1½ inches), and from three-quarters of an inch to 3 inches in the piers (averaging about 1¾ inches). In the nave it varies from three-quarters of an inch to 3 inches in the wall (averaging less than 1½ inches), and from 1¼ inches to 3 inches in the piers (averaging slightly less than 2 inches). A glance at the section (fig. 2) will be sufficient to show that it would be very unsafe to make any proportionate calculation from these figures to arrive at the total divergence. Mr. Goodyear considers that the well-defined leans in the triforium wall at the crossing piers against the entire depth of the transept walls are highly important, but they are sufficiently explained by the character of the movements in the transepts described above.

Mr. Goodyear tells us that "it is a very frequent arrangement in French cathedrals that

* *Architectural Record*, xvi. 452. Mr. Goodyear also suggests that other piers in the choir aisles taper.

† *Memoirs*, I. No. 4, 33, 34; *Architectural Record*, xvi.

453, 454.

‡ These are found also in the choir and transept.

§ *Catalogue*, 123.

|| *Catalogue*, 124.

the widening is inconspicuous or wholly absent at the façade entrance,"* and of Amiens he says that the divergences "appear to be uniform and parallel through the choir and nave, with the exception that the great piers at the entrance next the organ gallery (1a, 2a) do not diverge, and that those next them diverge less than the rest."† Truly an exception very damaging to his theories. The reason why the piers 1a and 2a do not diverge will be obvious from fig. 7 (plan of each end of the nave at the triforium level), by a comparison of the abutment of the crossing piers and nave piers with the abutment afforded at the west end, where the thrust of the high vault is neutralised by the whole weight of the western towers. On Mr. Goodyear's hypothesis, the exception is inexplicable. If these "widening refinements" were really regarded "as the necessary conditions to the creation of a work of art in

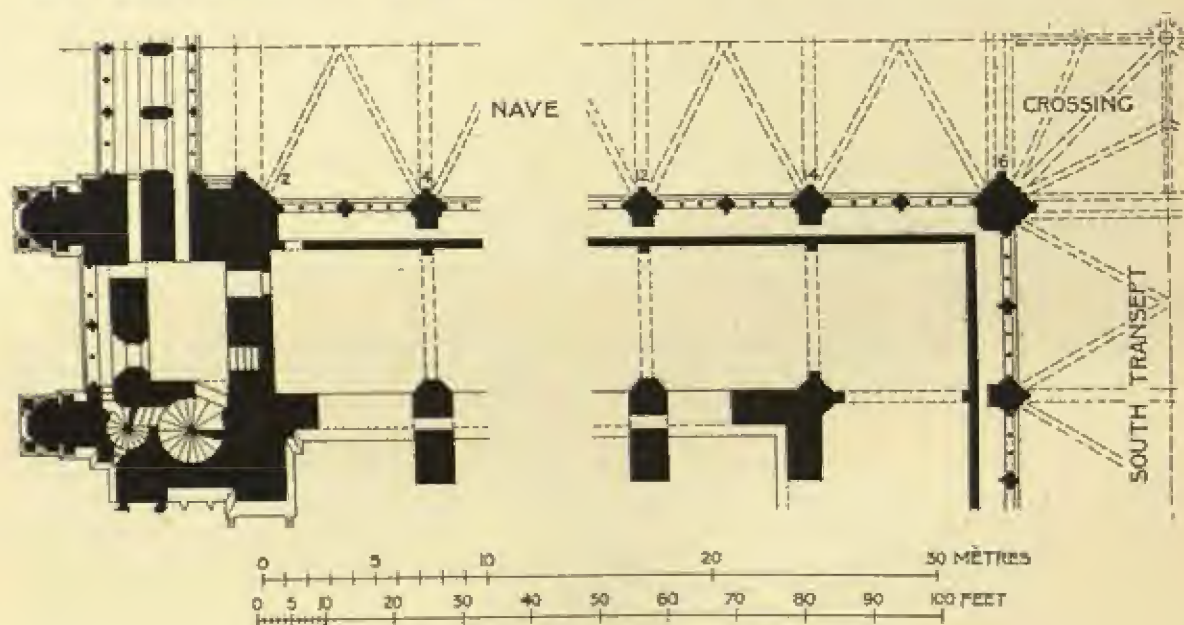


FIG. 7.—HALF PLAN OF EACH END OF NAVE AT TRIFORIUM LEVEL.

architecture," surely they were just as essential in the piers which closed the view westward as in the piers which bounded the eastward view across the transept, and even more essential there, at the west end, than in the intermediate piers of the nave where they are hardly perceptible. So also, when Mr. Goodyear tells us that of all the vaulting-shafts in the aisles of the nave eleven out of fourteen lean outward,‡ how is it that two of those which do not lean happen to be the shafts at the angles of the transepts, which close the view down the aisle eastward, precisely where such "refinements" would tell most?

To sum up. The deviations from the normal in Amiens Cathedral which Mr. Goodyear believes to be intentionally constructed "refinements" are nothing of the kind; they are merely the accidental results of movements which have taken place in the structure, of which movements conclusive proof is afforded both by the recorded history and by the present condition of the building. These movements are very small considering the huge dimensions and the lightness in the design of the structure; much smaller indeed than Mr. Goodyear

* *Architectural Record*, xvi. 139; *Memoirs*, I. No. 4, 24.

† *Architectural Record*, xvi. 450.
‡ *Catalogue*, 124-5.

would have us believe. The only surprising point about them is that they are not very much greater than we find them to be.

As Mr. Goodyear has quoted, in support of his theories, the views (not always at first hand) of architects and clergy connected with some of the French churches which he has investigated,* it may be well to see how these theories of his have been received in France by those most competent to pronounce an opinion upon them. As may be inferred from what I have said above, M. Durand entirely rejects Mr. Goodyear's theories with regard to Amiens. M. de Lasteyrie, whose authority on any question connected with the archaeology of French mediæval architecture ranks as high as that of anyone in France, has rejected Mr. Goodyear's theories in no uncertain manner.† M. Eugène Lefèvre-Pontalis, the *directeur* of the *Société française d'archéologie*, in a review of *Memoirs*, i. No. 4, says that Mr. Goodyear endeavours in vain to discover what he (M. Lefèvre-Pontalis) would call the law of horizontal inflection, and that the great variety of his observations proves indeed that it exists chiefly in his imagination. M. Lefèvre-Pontalis declines to accept his theories with regard to vertical deviations, and concludes by saying—"It seems to me that he sets out with an erroneous idea, and that he wishes to attribute to the architects of the middle ages principles which they had no interest in adopting from the point of view either of perspective or equilibrium."‡

I cannot conclude without acknowledging my special indebtedness to M. Durand, both as regards his masterly *Monographie*, and also for the supplementary information which he has so kindly given me. When the other French churches investigated by Mr. Goodyear have been the subject of monographs as exhaustive as that of M. Durand on Amiens, there will be no difficulty in producing equally conclusive proof that their "refinements" exist only in Mr. Goodyear's imagination.

* Mr. Goodyear quotes the *Suisse* and *Bédau* at Amiens in evidence of what he calls "the tradition at Amiens" (*Catalogue*, 121), which goes back some forty years. As evidence of tradition, the opinion of the experts of 1498 is more to the point. From his conversations with the *Suisse* and *Bédau*, Mr. Goodyear has evolved a curious theory which he calls "the Amiens explanation of the widening" (*Architectural Record*, xvi, 466), which is to the effect that the batter of the piers was "a device for the promotion of constructive solidity, and in order to throw the thrust of the vaulting directly against the line of resistance which is offered by the flying-buttresses." In other words, with

this intention the piers were built out of plumb at an angle of something less than two degrees from the vertical, if we accept Mr. Goodyear's own figures, or of about half a degree if we take the extreme divergence in fig. 6. It was surely unnecessary to devote three pages to reasons for doubting such a theory (*Architectural Record*, xvi, (1904), 456-458), and yet in his *Catalogue* of 1905 (p. 122) Mr. Goodyear says that it "appeals to one of the greatest experts of our day as possibly throwing new light on the constructive practice of the Gothic builders" 1.

† *La déviation de l'axe des églises*, pp. 283-299.

‡ *Bulletin Monumental*, lxi, 371-375.

MONDAY, 11TH JUNE 1906.

ADJOURNED DISCUSSION ON MR. WATERHOUSE'S PAPER: "SOME OBSERVATIONS ON THE REPORT OF THE ROYAL COMMISSION ON LONDON TRAFFIC, WITH SPECIAL REFERENCE TO THE PROPOSED FORMATION OF NEW THOROUGHFARES" [JOURNAL, 26TH MAY 1906].

Sir JOHN TAYLOR, K.C.B., *Vice-President*, in the Chair.

Professor BENESFORD PITE [F.], who had moved the adjournment of the debate at the last meeting, and who was now called upon by the Chairman, referred in his opening remarks to Mr. Waterhouse's Paper as perhaps the most important Paper to Londoners read at the Institute for many years; he advocated for it cool and full consideration and careful thought, as the important question of new thoroughfares in London was primarily a matter for architects. Continuing, he said: It certainly is a matter for architects before a matter for engineers. I think there is a great deal of force in what Mr. Waterhouse said in his Paper, that the scheme of the London Traffic Commission is primarily a tramway scheme which has attracted the attention of engineers, and has been dealt with in an engineer's manner: though I venture to suggest it is primarily a matter of buildings, and not merely a matter of through traffic, but of getting access to and from important buildings: and so long as the buildings of London, as we hope will be the case, are architectural, this is a question which primarily concerns architects. Perhaps it will be wise to deal with the matter very much in the way in which it was presented to us. In general terms I should like again only just to refer to the extraordinary gift which my friend Mr. Waterhouse displayed for bringing honey out of a carcass, and, as Mr. Gotch once remarked here, of providing that suggested flavour of humour in his Paper which corresponds to the influence of onion in salad. I would like to make this suggestion in the first place with regard to the direction of any new roads in London. Mr. Waterhouse has followed the main direction of the roads proposed by the Traffic Commission, and therefore I would like to start with this suggestion, that the configuration of London is practically the configuration of the river and its hills. I think generally it would be useless to attempt to throw a new line of traffic communication through London irrespective of the weight of buildings adjacent to that line. That weight of buildings is practically created for us by the line of the river, and therefore the wide new thoroughfare that will have to tap London must be equidistant, or

practically equidistant, from the river. Then we come to the question of hills. Of course there is Ludgate Hill, which is London practically, on which the original London stood, and around which London now seethes at its very heart. Then a little way to the north is Pentonville Hill, with the "Angel" on it, and there is the general slope going westwards that lies between Oxford Street, Piccadilly, and the river. The southern side of London is practically flat. I think the general diversion which is now suggested by a great eastern and western road entirely neglects this configuration of London which is created by the river, and that of the hills. It seems to scoot up Pentonville Hill as if it did not exist, or as if the traffic were longing to get up it. Then the southern road in the same way practically bumps over the angle at the bottom of Pentonville Hill. Taking up the roads as Mr. Waterhouse discussed them, the great west-to-east road, we notice that it terminates practically on the side of the Park. There is no logic in taking a huge thoroughfare to receive the greater part of London's traffic and directing it in an unbroken stream upon the edge of the railings at Lancaster Gate. I cannot conceive the reason for the termination of the western thoroughfare there, any more than I can understand its direction. When I say Lancaster Gate, of course I mean Lancaster Gate in Bayswater phraseology, and Victoria Gate in park phraseology. The only possible direction suggested by that line seems to be immersion in the water of Kensington Gardens, which you see exactly contiguous with the line of the road. Surely any western road ought to lead to some focussing point. If it were led to the Marble Arch it would receive relief in various directions; but ending as it does near the foot of Queen's Road, it seems practically futile in purpose. The Bayswater Road for a considerable length (at least for a mile) does exactly the work that is proposed to be done by this new west-to-east road. Then I should like to say, with regard to its general direction, that it disregards the general tendency of all east-to-west roads on the north side of the river. If you watch them, they all converge on to the City; that is to say,

they all have a practically due easterly direction or a south-easterly direction; and I cannot imagine what section of the population will wish to hurry at electric-tramway speed in a north-easterly direction away from Oxford Street, away from the delights of the shops, and right away from the City up to some point somewhere near St. Luke's. It seems to me that the direction of the road is contrary to the tendency of traffic in London. Eastwards, I think the same truth also applies. My proposition with regard to the configuration of the river would appear to have had some bearing upon the eastern direction of that great transverse road, but the eastern roads in London have a tendency northwards from the Bank. The roads all tend due east to the Bank from the west; but when you get to the Bank you find that they take a tendency northwards, which is probably owing to the existence of the docks. This east-to-west road, singularly enough, at that point turns down, which also has the effect of drawing traffic from the East End instead of into the City, and instead of where everyone wants to go—away in the direction of Old Street and St. Luke's. On these accounts it seems to me that that great thoroughfare is open to criticism. In the same way the north-to-south thoroughfare is not satisfactory, because it neglects the tendency to the City—towards the heart. It creates a wide road by the side of the great enclosure created by the railways to the north, and does nothing, and can do nothing, to receive and to relieve the north-western accesses to London. It is unfortunate, of course, from the point of view of the plan that the railways stand as they do, forming a great wedge driven into London from the north and preventing direct access from the north-west into the centre, and this great northern road does nothing but emphasise the existing difficulty. It creates an expensive and costly thoroughfare within easy reach of the Great Northern line all the way up to the north. Then when we come to the south, it in the same way avoids the centre, and everyone who goes down that road and wishes to reach the Bank, or the heart of London, will have to leave the road to itself and turn into some of the already existing thoroughfares. Generally, the western district of London at present is provided with an ample number of connecting thoroughfares. If you take Oxford Street, the great western outlet of London, you will find there are parallel streets which relieve it to the north in very considerable quantity, streets such as Wigmore Street, and streets like the great Euston Road, the great new road of the beginning of last century, and a road which I might remind the Meeting was created by Act of Parliament to be no less than 160 feet between buildings. The road is laid down as being 60 feet wide, and the buildings are to be kept 50 feet from the edge of the road by the New Road Act, and it is a fact

which has been pointed out in Minutes published by the London County Council that when the portico of Marylebone Church was erected it was found to be without the legal limit of 50 feet, and a special Act of Parliament was obtained to sanction the retention of that portico. London had gone to sleep during the last century, and allowed buildings right and left to infringe upon that most valuable building line; and the consequence is that we now find the great east-to-west thoroughfare blocked by leasehold premises, which it is hoped will not be renewed, so that we may some day come into the reversion of this east-to-west thoroughfare already existing, though partially blocked. To the south of Oxford Street there is not, of course, the same facility of movement from east to west, the streets being narrow and confined. The traffic to the north-west of course goes on the north side of Hyde Park, and the traffic to the south-west follows the Piccadilly line and passes under Hyde Park, so that it will be obvious that any improvement of means of access to London should follow the existing tendencies, and should rather take a similar direction to the great Oxford Street line on the north, or the great Piccadilly line on the south. Of course this scheme of the Commission is very large and drastic. It is too large to be practicable, and too drastic to be popular and to be carried out. We can only imagine such a scheme being carried out by the formation of a Trust to acquire a vast amount of property and to hold it for the benefit of the public, and such a Trust one can scarcely think will ever be able to be called into being. Mr. Waterhouse proceeded with a light airiness of humour which made his Paper so delightful to hear, and put the Hotel Russell under sentence of death; and if you look at the plan you will find he has been absolutely impartial, because the Langham has gone in a similar way; and his architectural humour has led him to suggest that a circle should be driven round the awkward back elevation of All Souls' Church on account of its clever portico. Then, Sir, generally I should like to suggest that, as London contains a very large number of exceedingly beautiful buildings, if we had a chance of really clearing a space and taking buildings that we have in London, and grouping them as we fancy we should like to see them, there would be no capital in Europe that could compete with London. If we take, for instance, that group of Greek buildings which we have around Bloomsbury—the British Museum, St. Pancras Church, the entrance to Euston Station, and University College—and group them together, what a magnificent class of buildings they are! Then in the same way, if you take the earlier buildings, the great city halls and such buildings as Whitehall and the Horse Guards, and so forth, and group those together a little more closely, how charming they would be! Then if we take the

wonderful series of modern Gothic churches and put those in a row or in a park, how nice they would be! I really should like to get all the Gothic redolences of the last half-century and stack them in the South Kensington Museum in order to give the public something to look at, and to give our architects a chance of repenting of their many sins. If we only had a chance of rearranging things, what a fine city we could make of London!—for the proper method of improving London is by improving the access between our buildings and opening up the buildings that we have. It is a singular thing that the line of Waterloo Bridge if produced will come into the centre of the front of the British Museum, and if we could strike a few lines of that sort right to our fine buildings and open up accesses between them, we should be doing something that is more practical, something that would be more easily attained, and something, I venture to think, which would be more satisfactory to us as architects than the mere driving of a huge new thoroughfare, with its very doubtful blessing of miscellaneous architecture which none of us can escape from, right through the heart of the London that we know and love so well. With regard to the configuration of the river, I should like for a moment to point out that the river is a great S. The upper curve has St. Paul's sitting above it on Ludgate Hill, and has for its centre Bethlehem Hospital at the south. The traffic routes of London have practically adopted that line because they concentrate across the river via Blackfriars Bridge and Waterloo Bridge upon the Elephant. Then the lower curve of the S has Westminster upon its shore in the centre; and at its true centre, from which it radiates, is Hyde Park Corner. That is really the shape of London, with St. Paul's at one centre and Westminster at the other, with lines rotating from St. Paul's and going northwards above Hyde Park, and the other lines from Westminster going southwards under Hyde Park. If you once recognise that configuration, I think it will help us to link our architectural buildings together. One other point, probably the most important point, because the most practical of all. Is it possible for us to have an authority in London which will study traditions, which will regard perpetually a continuation of architectural lines, and which will consistently harmonise our street widths and street improvements so as to give us the most competent relief when it can be obtained most economically, and when it is most needed? We all desire such a body as that, and I venture to think—and am glad to say it, quite prepared for criticisms which may be deserved, and probably are well deserved—that we have that body in the London County Council. I cannot help thinking that a body sitting with a permanent architectural staff, with permanent supervision of buildings, with statutory powers with regard to the

making of new roads, and with a certain control over existing roads, is the body which ought to be strengthened, and which ought to be supported towards the attainment of architectural ends which London most desires. I am quite sure that the improvement of the London County Council is a very necessary and a very important line of policy, and I should like to suggest to the Institute that the improvement of the London County Council as regards architectural matters is in our own hands; and if we were to take a wise line of public action with regard to the London County Council in public improvements, and seek to assist them in architectural matters in promoting their new legislation, we should be able to do in that way much more good than by merely maintaining a critical attitude with regard to action on problems which do not of necessity concern us as architects. I would like to point out to the Institute that only last year the London County Council introduced a Bill, the greater part of which was withdrawn, which practically gave them power to make streets up to 100 feet in width and to link together streets that wanted linking together, and to open up blind ends, so that in a variety of ways at small expense would begin to come that relief to the traffic which in the first place is necessary. On the other hand, I would venture to warn the Institute against calling into existence a new body without architectural traditions, to which we shall have no means of effectually appealing, which will drive huge large thoroughfares right through the heart of London in defiance of local interests and in defiance of any architectural interests. I cannot help thinking that we should foster steady education in the matter of public architectural improvement before we decide to call into existence another body to drive new streets through the heart of London in that way. I suggest that we, as architects, are not yet in a fit frame of mind and intellect to design buildings for such streets as are now proposed to be made, to say nothing of the designs of such circuses and fine public places as might make Russell Square the wonder of the world. Architectural tradition has moved far away from the point of type which has enabled us to produce Regent Street, or King William Street, or Moorgate Street in the City; but although we are doing our best, we can produce nothing much better than Shaftesbury Avenue, or Kingsway, which is practically the same thing only on a bigger scale. The absence of unity of feeling, the absence of architectural ideals in education, and the absence of real public interest in public architecture are to blame; but in all these respects we are improving. Give us another half-generation, and I think we may be fit for these new streets. I beg very heartily, Sir, to thank Mr. Waterhouse, if I may venture to add something to the vote of thanks which was passed last time for his most interest-

ing Paper, and to hope that public attention may not cease with it, and that our attention to it as an Institute may be concentrated continually upon this most important subject until London is fully alive to the fact that there is a "chiel" looking on and "takin' notes."

Mr. E. W. HUDSON [A.]: Professor Pite has dealt with the subject from an architect's point of view, but it must, I think, be considered also from an engineering point of view. The question is so important that we may excuse gentlemen who make suggestions even by letters to *The Times* if there is a chance of arousing the lethargy of Londoners by proposals likely to alleviate the present difficulties of traffic. Mr. Waterhouse has dealt very generously with the Royal Commission, but he has given good reason for one strong indictment in suggesting that it evinces "tramway madness." * With this I agree. But the worst sting of Mr. Waterhouse's Paper is in the tail—in the words "uninterested public." There, Sir, is the cause of all the trouble from which we now suffer. Mr. Albert Shaw in his book *Municipal Government in Great Britain* remarks:

If London within the lifetime of men still in their prime had taken due precautions, what errors might have been avoided! London is now creating a park system, and acquiring land that has quadrupled in value within thirty years. London is widening and straightening streets, and increasing thereby the expense of appropriating frontage that costs twice as much now as it would have cost a few years ago. The people of London suffer an incalculable loss in convenience and actual money through the haphazard nature of passenger-transportation facilities, &c.

A comprehensive plan for London realignment which might be worked from during the next half-century is the first desideratum now, late though it be. Mr. Waterhouse has not given us an alternative scheme, but has confined himself to a revision of the line for the two great avenues, which are only put forward in a very half-hearted, tentative manner in the Report of the Royal Commission. The Commission's scheme, in fact, is only a suggestion, and Mr. Waterhouse has worked it out carefully in detail. I do not think that a great east and west and north and south thoroughfare is what is required, although a great deal of traffic of course goes east and west. We have had very many schemes within the last 150 years, and since Wren and Evelyn planned a reconstructed London. After them came the little known but comprehensive book of John Gwynne (1766), and many of his suggestions have since been carried out. Later on came Sydney Smirke, in 1834, and some of his suggestions have been carried out. Then there were Sir Charles Barry's suggestions for Westminster, which were not carried out; next Colonel Haywood's; and since then, among others, the plans of Mr. H. H.

Bridgman, Mr. Woodward (1886),* Mr. Arthur Cawston (1893), and Mr. T. Blashill. I think London needs much more than two new straight thoroughfares, and, after considering the lines of many cities, British and Continental, I think what we require are *elliptical avenues* which will start at the west, pass round as belts, and turn south, so forming links across the bridges, as we find is done in the best laid-out foreign cities. London has not had an opportunity of substituting magnificent boulevards for its walls and defensive ditches, as was the case in many instances on the Continent, and I do not think they could be in any way improved upon. Take, for instance, Vienna, Brussels, Rouen, Milan, and, finest example of all, Paris. The belt system I hold to be *ne plus ultra* for a realignment of London. One such circuit route should give access to all our great railway termini in the Euston Road. Looking at the later cities of the New World and at the new towns in our own colonies, what do we find? They are all laid out in rectangular crossings, and with perhaps one or two diagonal avenues only, as in San Francisco, Chicago, Washington, Philadelphia, &c., but no belt lines whatever. In the avenues in the other cities I have referred to we find also belt lines of railways. What could have been more convenient to us for the past thirty years and more than the much abused Underground Railway, intended originally chiefly for goods traffic? It has been recently copied in Paris, where they have also their *Ceinture* outside, and now the *Métropolitain* is throwing out tendons, loops, and tangential extensions right and left. We have avoided circuits in roadways, and adopted them in a railway. The French adopted them in roads long ago, and now add railways besides, endorsing fully the principle advocated. Four lines of tramways as have been foreshadowed in this report, involving 140-foot roads, are superfluous. We can do without them, even if any double line is required. The motor bus will do much for London. It has not had a fair chance. When its noise, smell, and vibration have been rectified (which is surely within the range of engineering skill), tramways will be found a nuisance and an obstruction. Therefore I join issue at the outset with this part of the report. The tramway mania has been caught by the President of the Local Government Board, according to his article in the *Pall Mall Magazine* for June, and he has no other panacea for the difficulties of London traffic than the multiplication all over London of electric trams. In the district he represents—viz. Wandsworth and Battersea—the place is now in a state of upheaval owing to the construction of electric trams: the roads are blocked everywhere, and the trade is suffering. The expense of a general adoption of these tramways is something

* There were Commissioners who dissented.

* *Westgarth Prize Essays.*

terrible to contemplate. Mr. Burns says, "Extinguish omnibuses altogether," dealing another blow at private enterprise. Now, objection has been raised to the "newness" of London which would be caused by building in new streets. Preserve all ancient and good buildings as far as possible; but they were new once, and surely a monumental character can be imparted which will be better than mature buildings of the Gower Street or even Nash's Regent Street type. We have seen the design for the reconstructed end of that street; and although it is stated that the shopkeepers say they will have nothing to do with it, we must admit that it is possible to get designs, providing for a little more adequate display of goods, without supporting upper stories on posts with all plate glass in front. As regards an Advisory Board Mr. Burns says, "It exists already, and its offices are in Spring Gardens." I regret that Professor Pile approves this and fears to have another authority, thinking it would create a "Frankenstein's monster." The Government, representing the British public, has already created one which bids fair to "extinguish" ratepayers as well as omnibuses; and to give this insatiable body further duties while its members are partly occupied with parliamentary duties would but add another hydra-head for absorption of rates (without control) in municipal expenditure. I am glad to see Sir R. M. Beauchcroft objects to this idea. I deprecate any scheme that would injure the prospect of the Thames Embankment, as the proposal in the Report for a bridge close to Blackfriars Bridge would certainly do. We have already the Chatham and Dover Railway bridge on one side, and to put another on the other is perfectly unnecessary, and would spoil the finest curved quay which this country possesses. Blackfriars Bridge is to be widened, and Waterloo Bridge, only 44 feet wide, could be and one day must be widened. The addition of a half-bridge each side of Charing Cross railway bridge would relieve the Strand, provide all that is necessary for transpontine traffic, and not add to congestion at the focus of the converging roads on the Surrey side. Mr. Waterhouse suggests that to take two frontages in street-widening would be better than one. I think that is so from an architectural standpoint. Leaving apart the question of architectural grandeur, however, to take two sides is a more expensive way. You have double the number of compensations to arrange and double the frontage to relet, and it seems not so recuperative or easy now to let it with the restrictions we desire to enforce. It must be remembered that Gray's Inn Road has already been widened, and any further widening is hardly likely to be adopted. The fear of trespassing upon the sacred precincts of the Temple has perhaps been carried too far. If King's Bench Walk were thrown open to the Strand and Embankment it would afford fine relief to Fleet Street, and the privacy of the divided

precincts could be secured by trees and a connection by subway. I strongly protest against the necessity for any fresh bridge; but if it must be, the line from the Law Courts to Bethlehem Asylum is serviceable, and incidentally suggestive! Mr. Waterhouse would seemingly spare the Duke of Devonshire's property at Berkeley Street, but has not been so kind to the Duke of Bedford at Russell Square. I prefer a line passing in front instead of behind St. Pancras Church, and so by Seymour Street widened on the east side to High Street, Camden Town. The importance of the subject, and its bearing on matters which the Congress is to consider, is my excuse for the length of these remarks.

Mr. Wm. WOODWARD [F.]: I am very sorry I was not able to be present when Mr. Waterhouse read his Paper, but I read it in the *JOURNAL*. I can quite sympathise with him in the difficulty he must have had in preparing such a Paper, because in 1885 I myself read a Paper on the subject in this room, and I know the difficulties as to the laying-out of streets of this nature. Looking at Mr. Waterhouse's plan I am reminded of my own plans for rebuilding London. Mr. Waterhouse has found, as he considered, the proper route for a new thoroughfare, and he has constructed that route, having as much regard as possible to the buildings on that route. I cannot understand Professor Beresford Pile's point as to the configuration of the Thames. What the configuration of the Thames has to do with driving a thoroughfare for the relief of the traffic of London I cannot imagine. With regard to the example of Marylebone Road the Professor has properly spoken about it. I know the history of that road, and I remember the energy I exerted as honorary architect to the Metropolitan Gardens Association in endeavouring to get carried out improvements in connection with it. To deal with this matter in a practical way we must arrive at the conclusion, after reading the Traffic Commission's Report, that there is no possibility of getting new thoroughfares in London. The present Government will not give us the money, and the London County Council has exhausted all its resources, or will have done so in a very short time, so we cannot look to them for assistance. What I think we might do is to take advantage of existing thoroughfares more than we do. If the police would divert the traffic more on to the Embankment, parallel with the Strand, and divert the traffic more into Gower Street, parallel with Tottenham Court Road, and take advantage of other great lines of thoroughfares north and south, and east and west, I think we might be able to get some relief from the congestion from which we suffer. Mr. Waterhouse's great north and south thoroughfares are as effective for this relief as it is possible to design thoroughfares: and with regard to the architecture of the new streets Mr. Waterhouse

proposes, I certainly think there are architects living capable of designing buildings worthy of those thoroughfares. One could not adopt a better plan than that already adopted in the case of Regent Street, viz. block-to-block designs uniform in treatment, but each block varied in design. With regard to using the Embankment for tramways, as recommended by the Traffic Commission, to my mind tramways along the Embankment would utterly spoil that noble thoroughfare. That suggestion has been formulated and brought forward entirely in the interests of the so-called British workman, and I certainly hope that tramways will never be permitted there. The width of the thoroughfares is an important point. Mr. Waterhouse recommends that they should not be too wide. Northumberland Avenue from house to house is 90 feet in width; Portland Place, house to house, is 120 feet in width; and the new Piccadilly, at the widening near the Circus, is to be 80 feet in width; but I do not think that any thoroughfare should exceed 100 feet. Another thing we might do with regard to the clearance of London streets is to preserve as much as possible of old London. I was reading yesterday of the wonderful effect of old Temple Bar which now forms the entrance to Theobald's Park, and I think Sir Aston Webb has probably preserved the beautiful pillars that used to be outside Christ's Hospital. If we are to destroy thoroughfares, we might at least preserve some of their more interesting features. With regard to the proposed Board of Architectural Control I should be very sorry indeed to see any sort of control over the architects of this country vested in Spring Gardens, whose officials are, I think, already fully employed. I think Professor Pite rather contradicts himself by first suggesting that the Board should be at Spring Gardens and then finding fault with Aldwych, which is the child of Spring Gardens. It would all depend upon the constitution of the Board, and questions of that sort require very grave consideration. With regard to the education of the public, as Mr. Hudson has referred to the shops in Piccadilly perhaps I may be allowed to refer to that, as it is exercising a great deal of public attention at the moment. The Art Critic of *The Times* in last Friday's Literary Supplement says this with regard to the Regent Street buildings: "They might be made less heavy by abolishing the square blocks that are to interrupt the columns and by greater simplicity of detail generally. Let the architect beware of a recent shocking example—the new Palace of Justice in Rome. It has cost millions, and its decoration, because it is heavy and over-elaborate, is universally condemned. The stateliness of the new Quadrant would be improved, not diminished, if the distinguished architect would retrench a few of his details and simplify some of the lines." As one of the architects planning that hotel, but not

responsible for the architecture, though I am in entire agreement with its architectural beauties, I think it will make a magnificent addition to the architecture of England. It is lamentable to my mind that the Art Critic of such an influential paper as *The Times* should not have taken the trouble to inquire a little into details of matters upon which he is writing his opinions. If he did so, he would find that, contrary to there being over-elaboration, the design is one of the simplest in its lines and details that it is possible to conceive. There is certainly no excessive decoration or over-elaboration. The only particle of carving is round the circular windows on the third floor, and the whole of the building, with which I am very familiar, is simple and devoid of elaboration. With regard to the public education on this very matter people are speaking of shops being recessed, of piers that will interfere with the shop fronts, and of widths and heights, in entire ignorance of the actual dimensions which they could obtain at any moment if they took the trouble to consult those who are erecting the edifice. It is regrettable to find such criticism from persons who will not take the trouble to ascertain the facts. With regard to the opening of the Mall, a suggestion made at the Institute some thirty years ago, and which was now being carried out by Sir Aston Webb, I am quite sure we may trust him to do all that is beautiful in connection with the work. But here is an instance of the want of public spirit. No entrance to the Mall from Charing Cross would, to my mind, be perfect unless Drummond's Bank is removed. If Drummond's Bank be retained it will prevent the widening of Whitehall, and it will entirely spoil one of the finest things done in the early part of this century. I will not detain the Meeting longer. I could have said a great deal about the plans before us. I can only congratulate Mr. Waterhouse for producing these plans, but I am afraid they will be like mine of twenty years ago—they will have no practical result. Nevertheless, Mr. Waterhouse's name will be handed down to posterity as one who did his best for the beautification of London in the early part of the twentieth century.

SIR ASTON WEBB, R.A. [F.]: I should not like the occasion to pass without adding my small congratulations and to express the pleasure I have, and that I am sure we all have, that one who bears so honoured a name in this Institute should have revived the interest which his father took, and have given and read us so excellent a Paper. It is one of the most important subjects we have ever had before the Institute. We architects have spent a good deal of time on arts and crafts and chairs and tables and things of that sort, and while we have been fiddling, as I might say, with these things, the greater interests of architecture have been a little apt to slip out of our fingers, and to-day we find our municipal authorities having borough

engineers or surveyors of their own, while architecture is but little considered. Mr. Waterhouse's Paper and the scheme he proposed show how essential it is when lines of streets are laid out that they should be laid out, certainly by engineers and surveyors, but certainly also in conjunction with architects. The very direction of the streets themselves is influenced by architecture, and properly influenced by the architectural effects which occur. However, to-night we are not concerned to examine whether these two main streets are the right lines. That is far too great a subject for me to enter into. Mr. Waterhouse has also protected himself in the same way, I think, by saying that he accepted the proposals of the Commission as being the two best lines, and then he has tried to put them into architectural form. This he seems to me to have succeeded in doing, and he naturally in one part has used Aldwych, and made that form part of his north and south route, whereas by an extraordinary oversight the engineer's plan did not bring in Aldwych at all. There is one thing I should like to say as a sort of principle with reference to straight streets. Sir Melvill Beachcroft has given a most amusing account of the making of Kingsway. Mr. Frederick Harrison, he said, picked up a ruler and ruled two straight lines to show the route, and that was the beginning and the end of Kingsway. That, no doubt, was quite right so far as it went. A great street like that, 100 feet wide, ought to be straight. But it cannot end there. When you have got your straight street, the next matter of importance is the way the two ends are terminated. Reference has constantly been made to Harley Street and Wimpole Street, both of them straight and wide streets; yet they lack dignity. No one would ever consider them of great architectural merit. One reason, to my mind, is that neither of those streets has a termination: they both run into the Marylebone Road at the other end in a most mean and poor way, and they have therefore nothing which can add dignity to them. If you take the Opera House away from the Avenue de l'Opéra in Paris, you would have a comparatively unimportant street. It would be merely a straight road, emphasising nothing, by nothing emphasised. If you take from the Champs-Élysées the Arc de Triomphe, it would still be the Champs-Élysées, but it would be merely an avenue without any interest in comparison. One constantly sees in a park a noble avenue with, say, a fine old Georgian house at the end of it: but go to a park where the house has been removed and you will find the avenue has lost its charm. Therefore I think the great thing in laying out a street is to consider what is to be the termination at the ends. Mr. Woodward very kindly referred to the Mall, and he urged that Drummond's Bank should be removed. Well, I think if you stand at the Mall now and look down towards the palace,

whatever you think of the palace, you will see at any rate that there is a certain dignity with a wide road finishing with a great building. But if you turn round and look the other way, though there is the same road, and trees, and so on, the fact of there being no imposing buildings at the other end takes all the dignity out of the wide road. If you pull down Drummond's Bank you will give bolder advertisement perhaps to the Grand Hotel and to the other conglomeration of buildings there, but in my view you will not give the dignity that a wide thoroughfare of this sort requires, and therefore it is that we are now in course of erecting a building which will span right across the thoroughfare, and which will, I hope, apart from its architecture, give it a noble termination. That will give the distinction which the road at that end so greatly needs. If you throw it open you cannot give dignity to that end, because the line of the Strand is different from the line of the Mall. At least, that is how it appears to me, and I am not opinionated, I hope. Professor Pite remarked that we shall not be ready to build on these streets for another half-generation; but I think we are pretty safe, because in all probability the streets will not be ready to be built upon till then. Still, it is very pleasant to learn from him that by that time we shall be ready. The Professor knows, because he has the young under his tuition; he knows what is going on, and therefore speaks with authority! I must just thank the Professor for his kind proposal to fill the South Kensington Museum with old second-hand redoses; but I do not quite fall in with that suggestion, and hope it will not be carried out. As regards another of Professor Pite's ideas, that perhaps the authority for the improvement of London should be the authority at Spring Gardens, I am not at all sure that something of that sort, with some outside supervision which would keep them in check and make them responsible to somebody, would not be a very good thing. The great London authority is a very great power indeed. If you wish to get good work out of people, you must give them your confidence; and I certainly think so long as we do not give the London County Council our confidence they will not produce altogether what we want. But the great and growing thing that we most of all want is that there should be some authority, whether it is an imperial authority or whether it is a municipal authority—there should be some recognised authority which should be responsible for the proposals as to new streets, and which should have the devising of these schemes. If I may, I should like to read to you a paragraph which I cut out of a paper two or three days ago, from a speech by the Bishop of Birmingham, an outsider in these matters, but who seems to me to put the matter far better than I am able to. He says: "Again, we walk through miles and miles of

streets in our big cities without open spaces, with nothing except what Dickens called 'an uninterrupted view over the way'; and think of what that means never to realise or breathe anything of the largeness which comes in open spaces. Then you see lands not built over, not in cultivation; and you ask, Why? 'Oh, because they are not ripe for development.' But we say they are ripe for development to-day. They have been ripe for development these years past for the food of the community. We want the whole mass of our cities to be organised, planned, laid out. Instead of that, the cities grow at the will of the jerry-builder or the property owner, orderless, shapeless, and without method, because there is no one to plan and forecast, and give a city space and dignity, and room and order—something that can make it worthy to be called a city." Those are the lines on which, I think, we ought to go.

Mr. H. D. SEARLES-WOOD [F.] said he would not trespass on the time of the Meeting at that late hour, but asked leave to move the following resolution: "That the Council present to the Government a memorial urging that, as the Royal Commission on London Traffic reports it to be necessary to open up new thoroughfares and communications, it is most desirable, in order to preserve the architecture of London, that the profession of architecture should either be represented on the Board or that a professional adviser or advisers should be employed by the Board that will be formed to deal with the laying-out of the new thoroughfares."

Mr. JOHN SLATER [F.], in seconding the resolution, said that one thing had been rather lost sight of which he thought should not be ignored in any discussion on London traffic. What was the reason of the congestion which now rendered necessary the creation of these huge streets? It was because our forefathers had no providence and no foresight with regard to the open spaces of their time. And the open spaces of to-day would be, unless we have some control over them, the congested districts of one hundred years hence. Our authorities must look to it that they keep powers for securing for the public in the future open spaces in the districts which are now being built over in such an abominable manner.

Mr. WATERHOUSE when called upon by the Chairman to reply stated that the hour being very late he would confine himself to briefly expressing his thanks to the various speakers who had alluded to his Paper in such kindly terms. With the permission of the Chairman he would commit to manuscript for publication [see p. 427] the remarks which but for the prolongation of the business he had intended to utter in answer to certain criticisms. One thing only he would wish to say at once. Professor Peto had warned the Institute against attempting to bring into being a Frankenstein's monster—an unnatural and almost im-

possible Board of Architectural Control. He (Mr. Waterhouse) wished to point out that the danger lay in action outside the Institute altogether. The natural and logical outcome of the Report of the Royal Commission would be the formation of a Traffic Board, which among its other functions would, according to the intentions of the Report, have those of the creators and custodians of some scheme of street improvement whether identical with that of the Commissioners or not. The formation of such a Board was so far within the range of practical politics that a Bill (Sir J. Dickson-Poynder's London Traffic Board Bill) was actually in print and before the House of Commons. It was the duty of those interested in the architectural aspects of the case to see that such a Board if formed either had some architectural ingredient, or, better still, employed some such architectural advice as he in his Paper had recommended.

THE CHAIRMAN: The more we hear of this enormous work which has been proposed by the Advisory Board and the Commissioners, the more I think we feel ourselves indebted to Mr. Waterhouse for having entered upon such a tremendous subject. I entirely concur in many of the views Mr. Waterhouse has expressed, and I consider many of his recommendations in regard to the traffic exceedingly good, particularly that with reference to the utilisation of Kingsway. I think that to form another Kingsway on the eastern side of the present one when that has been created at such enormous expense would be sheer waste and extravagance. I also concur in his recommendation for an increase in the bridge communication between the north and south to the front of the Law Courts. I am perfectly satisfied that the blocks which occur both in the Strand and at Westminster in Parliament Street—and I think the Strand is about the very worst place for a block in London—are due solely to the want of further bridge accommodation. There is no bridge accommodation for vehicles between Westminster Bridge and Waterloo Bridge, and as a consequence we find hundreds of vehicles travelling across Waterloo Bridge and across Westminster Bridge which desire to get to Charing Cross. They cross Waterloo Bridge and immediately block the whole of the Strand traffic trying to get to Charing Cross. My impression is that if a bridge could be erected across the Thames from somewhere in the line of St. Martin's Church or King William Street to Waterloo Station, it would be of enormous service, and would stop all the confusion of traffic at the ends of the present bridges. I am sure of that, because if you come in a cab or an omnibus from Waterloo, you come across Westminster Bridge and turn up Parliament Street to get to where?—Charing Cross. Precisely the same operation is going on all day long across Waterloo Bridge. I think a very great deal might be done if the

police had greater powers, or if they adopted the powers they really have; but they seem indisposed to adopt what will cause them to be at variance with certain sections of the public; in fact, the Commissioner of Police for the metropolis actually said so. Now, the police, if they had the complete regulation of the traffic, could surely direct all the buses to go up one or another route, so as to avoid a block at a certain point. But what do we find in the case of Hyde Park Corner? Now, the setting back of the Arch at Hyde Park Corner to where it is now was done with the sole idea that it would get rid of the block opposite the entrance to Hyde Park. What happened? Immediately that place was opened, we expected omnibuses would go right round the front of the Arch away from Piccadilly to Grosvenor Place. No such thing. They have continued to go straight along Piccadilly up to St. George's Hospital, because it suits them better to take their fares that way and to go down Grosvenor Place. That is what causes the block at Hyde Park Corner. But if the police would order the traffic to take a fresh direction, the block would be got rid of. Therefore, if the police had greater powers, and would act up to them, many of these troubles in the traffic would disappear. I think the creation of a Traffic Board is a most excellent suggestion. If properly worked, it might be made of the very greatest service. With regard to the enormous scheme which the Commissioners had issued for the railways round London, extending away to thirty miles, that is not the difficulty just now. It ought to be seen to in the future certainly, but at the present time there is practically no difficulty in getting to London. The difficulty commences after you get there; you cannot get to your destination if you have to traverse the busy centres. Sir Joseph Dimsdale in his separate Report states that the cost of the proposed main avenues would be out of all proportion to the relief given by them. I am strongly of that opinion myself. I do not think they will ever be of the service they are expected to be. Sir George Bartley, also in a separate Report attached to the Report of the Commissioners, says, with regard to the difficulties in the traffic being in the centre parts of the metropolis, that all the difficulties are at such points as I have just named—that is to say, at Waterloo Bridge, Wellington Street, and Parliament Street, &c. It is evident that those bridges which have sufficed for the traffic are not now sufficient, as the population on the south side has increased perhaps by a million. The traffic can only cross with difficulty the bridges originally designed for it; there is not room enough, and when across it is in such volumes that it stops the whole of the traffic at right angles. I feel very confident that additional bridge accommodation is required, and I think Mr. Waterhouse's suggestion

that there should be an approach to the front of the Law Courts is an extremely good one. I think if a bridge could be got off the high ground on the level of the street on the north side, from somewhere near St. Martin's Church to Waterloo, it would so distribute the traffic that there would be no further difficulty.

THE CHAIRMAN, finally, put Mr. Searles-Wood's motion, which was carried unanimously.

Mr. H. V. LANCHESTER [F.], writing since the meeting, says:—

A reference has been made to the desirability of laying out new streets so that they may connect up, in a dignified manner, our great public buildings. While this is highly necessary from an architectural point of view, it is obvious that the buildings most needing ample traffic facilities are the large railway termini, and their requirements must be taken into account.

Mr. Paul Waterhouse's road and bridge connecting the Law Courts and Bethlehem Hospital seems an admirable scheme, and I would suggest that it offers still further advantages if "double-decked," so as to carry a tramway from Aldwych to the Waterloo Road, while the carriage road above would be continued at the bridge-level over the South-Eastern Railway before dropping down to St. George's Road, thus giving a good high-level approach to Waterloo Station, an approach badly needed by this important terminus.

The removal of Christ's Hospital offers an exceptional opportunity for the commencement, at a relatively small cost, of a straight road leading from the east end of Holborn Viaduct, north of the Central Telegraph Offices, to the junction of Moorgate Street and London Wall, such a road being badly needed for the relief of Newgate Street and Cheapside.

I am glad to see that Mr. Waterhouse adopts the over-and-under arrangement for important crossings. It seems remarkable that the method has not been more used, considering that hints on this point may be found in some of Leonardo da Vinci's sketches.

A straight street is of little value for architectural effect if its gradients are much broken up, and both the general scale and climate of London suggest about half a mile as the maximum length of a straight street leading up to a terminal building.

I fear it is too much to hope that municipalities will obtain powers to lay out land prior to its occupation by buildings, though this has been done abroad with excellent results.

In view of the importance of this subject, might it not be possible, on a future occasion, to make the remodelling of London (from an architectural point of view) the subject of one of the R.I.B.A. competitions?

SUPPLEMENTAL NOTE BY MR. WATERHOUSE.

I should be lacking in respect to the various speakers who took the trouble to offer criticisms or remarks upon my Paper if I did not ask for the publication, with the report on the debate, of a few observations which, but for the lateness of the hour, I had intended to include in my reply. Sir Melvill Beachcroft pointed out that Sir J. Dickson-Poynder's Bill was not very likely to become law, but both he and Sir George Bartley were, I think, agreed, in spite of the opinion of Mr. John Burns, that an independent authority other than the London County Council ought to be, and perhaps some day would be, the supreme directing agency in a scheme of comprehensive street formation. That in spite of all obstacles, monetary, proprietary, or physical, some course of action—some attempt at the solution of the problem—must sooner or later be taken in hand seems incontestable; and if this be so, then obviously the sooner a definite scheme is matured and adopted the less risk will there be of haphazard and fragmentary "improvements," and consequently the less outlay in ultimate expense. By Mr. Statham I am understood (and rightly) to be in favour of individualism in street architecture; by Sir Aston Webb I am, I think, gently accused of thinking lightly of straightness. I should like to meet these friendly criticisms, not by withdrawing my arguments in favour of obliquity and idiosyncrasy (I use this word in its literal and inoffensive sense), but by pointing out that I distinctly wish them kept to their proper places and their proper degree. There are points in the line of route I suggest which absolutely demand balance, homogeneity, rectitude, and for that matter severity, severity being a quality which in stately city architecture is essential even where individualism is allowed; but I still hold that there would be whole tracts of street frontage where contrast of design and moderate undulation of direction would no more damage the London avenues than the latter damages the Grand Canal or the former the Via Balbia at Genoa. Sir Aston Webb will, I think, let me point out that his forcible plea for at least a certain amount of straightness and for the arrangement of interesting vistas is one which I much more reverence than ignore. My concentration of streets on the view of All Souls' spire and my attempt to aim an unbending road at the entrance of the Law Courts and at the dome of Bethlehem Hospital are efforts on my part to do homage to the principles for which he pleads.

Professor Pite, whose judgment I always respect, is, I think, a little hard on the Commissioners in his suggestion that the west-to-east avenue leaves

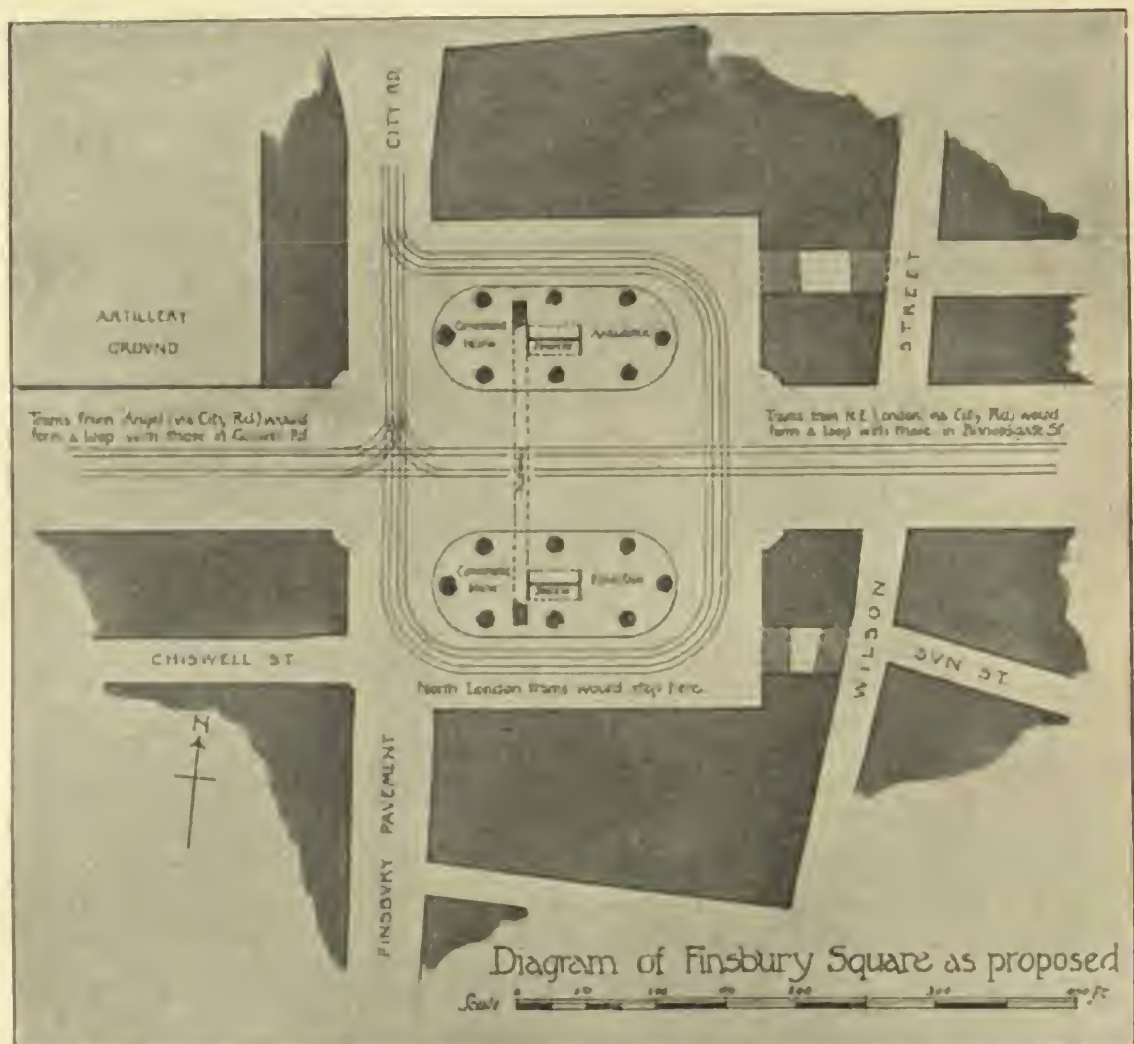
the Bayswater Road at too unfrequented a spot and shirks the bustle of the City. In truth, this is its function, not its fault. If it were to quit the Bayswater Road at the Marble Arch, and if it were to attempt to attach itself to the hurly-burly of Cheapside, it would stultify its hypothetical existence. Its object is to take, for example, the man of Notting Hill to Aldgate without bringing him into conflict with the passenger who wants to go from Gray's Inn to the Mansion House. Again, Mr. Pite touched upon a problem which, fascinating as it is in itself, has really nothing to do with our present business. The question what should we make of London if we were starting fair, with nothing but the hills and the river to consider, has no germane connection with our present crux, which is, "What can we do for dear old London as we find it, marked here and there with certain inviolable centres of activity, scored across by streets whose characteristics are almost inalienable, plotted with parks and markets, palaces and *quartiers*, that no effort of the map-maker can annul, and set about with shrines of interest historic, religious, and architectural which sacrilege only would venture to disturb?"

I thank Mr. Searles-Wood for realising, as his motion proves, that the subject is one which demands more than academic discussion. The outcome of the Commissioners' Report may be remote, it may be near. The importance of the issues raised demands that, whenever that outcome occurs, Architecture, if she be not invited, should have the courage to invite herself to co-operation. No false modesty on the part of the representatives of our art should prevent us from insisting that an enterprise which bids fair to have a far-reaching effect on London architecture should at least have some touch of architectural guidance at its inception.

One final word on a practical subject. We have all had our joke at the Commissioners' expense on the subject of tramways. For my own part I certainly do not pin my faith to tramcars as the great locomotive agency of the future, but I do admit that some of them will probably continue to exist, and that consequently it will be the duty of those who are in charge of the traffic problem to do what can be done to minimise their defects. The Commissioners are quite right in realising that trams are at their worst at their termini. Not only do passengers in waiting and passengers discharged cause a congestion on the roadways and pavements, but the shunting and the reversing (whether horses or electric power be employed) cause confusion, and even danger, among traffic. There are two ways of reducing these incon-

veniences. One is to abolish the terminus by continuing the tramways to a further point. But such a continuation would, in the case of certain termini, simply mean running through the City, a course which certainly cannot be said to make for "the greatest happiness of the greatest number." The other way is to make a loop end, *i.e.* to so divert the course of the tram-roads at the terminus that, instead of reversing and retracing their route, they return by a loop line to rejoin the homeward route at a point either adjacent or some hundreds of yards away. A plan which Mr. Mansford has

kindly prepared for me, and which is here reproduced, shows how the train-lines which converge from the north on to the terminus in Finsbury Pavement might be diverted east and west on to loop circuits in Finsbury Square. The gardens of the square—bisected by my proposed east-and-west avenue—might contain suitable waiting pavilions to shelter those waiting for the cars in wet weather; and the whole arrangement would, I think, be one calculated to reduce to order, perhaps even to dignity, the usually rather squalid circumstances of a tramway terminus.





9, CONDUIT STREET, LONDON, W., 16th June 1906.

CHRONICLE.

Seventh International Congress of Architects, 1906.

At the Inaugural Meeting of the Congress, to be held at the Guildhall on the afternoon of Monday, 16th July, H.R.H. the Princess Louise will be present, and the chair will be taken by his Grace the Duke of Argyll, K.G.

The Executive Committee desire to remind members of the Institute that the privilege of attending any function, visit, or meeting of the Congress is absolutely restricted to members of the Congress of the three classes—donors, subscribing members, and lady members. The only exception made is in the case of the Institute Evening Garden Party at the Royal Botanic Society's Gardens on Thursday, 19th July, when members of the Institute can obtain extra tickets at the rate of 5s. each.

THE ANNUAL ELECTIONS.

The results of the elections, with the numbers polled, as reported by the Scrutineers, will be found set out in the Minutes of the Business Meeting last Monday [p. 434], when the Council and Standing Committees were declared duly elected as follows:—

THE COUNCIL.

President.—Thomas Edward Colcutt.

Vice-Presidents.—James Sivewright Gibson; Edwin Thomas Hall; Henry Thomas Hare; Leonard Stokes.

Hon. Secretary.—Alexander Graham, F.S.A.

Members of Council.—Reginald Blomfield, A.R.A., M.A.Oxon., F.S.A.; John James Burnet, A.R.S.A. (Glasgow); William Douglas Caroe, M.A.Cantab., F.S.A.; Alfred William Stephens Cross, M.A.Cantab.; Edward Guy Dawber; William Flockhart; Ernest George (Past Vice-President); John Alfred Gotch, F.S.A. (Kettering); Edward Augustus Gruning (Past Vice-President); Edwin Landseer Lutyens; Charles Edward Mallows; Edward William Mountford; Ernest Newton; William Alfred Pite; Andrew Noble Prentice; George Halford Pryor; John Slater, B.A.Lond. (Past Vice-President); Paul Waterhouse, M.A.Oxon.

Associate Members of Council.—Henry Arthur Crouch; William Adam Forsyth; Sidney Kyffin Greenslade; Henry Vaughan Lanchester.

Representatives of Allied Societies.—Henry Dare Bryan (Bristol Society of Architects); Harry Sutton Chorley, M.A.Oxon. (Leeds and Yorkshire Architectural Society); Edmund Kirby (Liverpool Architectural Society); William Mansfield Mitchell, R.H.A. (Royal Institute of the Architects of Ireland); James Milne Munro (Glasgow Institute of Architects); Harbottle Reed (Devon and Exeter Architectural Society); Harold Ogle Tarbolton (Edinburgh Architectural Association); Howard Henry Thomson (Leicester and Leicestershire Society of Architects); John Henry Woodhouse (Manchester Society of Architects).

Representative of the Architectural Association (London).—Robert Shekleton Balfour.

STANDING COMMITTEES.

Art.—Fellows: Reginald Blomfield, A.R.A., M.A.Oxon., F.S.A.; William Douglas Caroe, M.A.Cantab., F.S.A.; Edward Guy Dawber; Ernest George; James Sivewright Gibson; Henry Thomas Hare; Professor William Richard Lethaby; Ernest Newton; Edward Schroder Prior, M.A.Cantab., F.S.A.; Paul Waterhouse, M.A.Oxon.—*Associates:* John Anderson; Robert Shekleton Balfour; Arthur Thomas Bolton; William Adam Forsyth; Sidney Kyffin Greenslade; Henry Vaughan Lanchester.

Literature.—Fellows: Reginald Blomfield, A.R.A., M.A.Oxon., F.S.A.; Alfred William Stephens Cross, M.A.Cantab.; Professor William Richard Lethaby; Edward Schroder Prior, M.A.Cantab., F.S.A.; Halsey Ralph Ricardo; Professor Frederick Moore Simpson; Professor Ravenscroft Elsey Smith; Richard Phené Spiers, F.S.A.; Hugh Stannus, A.R.C.A.; Paul Waterhouse, M.A.Oxon.—*Associates:* William Adam Forsyth; Frank Lishman; William Henry Ward, M.A.Cantab.; Percy Leslie Waterhouse, M.A.Cantab.; Arthur Maryon Watson, B.A.Lond.; Percy Scott Worthington, M.A.Oxon.

Practice.—Fellows: William Henry Atkin Berry; Charles Henry Brodie; Max Clarke; George Hubbard, F.S.A.; Joseph Douglass Mathews; John Murray; Sydney Perks; Alfred Saxon Snell; Thomas Henry Watson; William Henry White.—*Associates:* Edward Greenop; Edwin Richard Hewitt; Herbert Hardwicke Langston; Thomas Edward Pryce; Augustus William Tanner; Robert Stark Wilkinson.

Science.—Fellows: Thomas William Aldwinckle; Max Clarke; Bernard John Dicksee; Matt Garbutt; Francis Hooper; Charles Stanley Peach; Sydney Perks; Herbert Duncan Searles-Wood; Alfred Saxon Snell; Lewis Solomon.—*Associates:* Robert John Angel; Henry William Barrows, F.G.S.; Edwin Richard Hewitt; George Pearson; Augustus William Tanner; Ernest Alexander Young.

The Hon. Auditors are Messrs. Sydney Perks [F.] and William Arthur Webb [A.].

The Scrutineers of the elections were Messrs. W. Bevan, T. E. Cooper, H. O. Cresswell, R. Clark Edwards, T. P. Figgis, A. L. Guy, John Hudson, Arthur Keen, R. Falconer Macdonald, G. Ernest Nield, W. Henry White, *Fellows*; J. Herbert Belfrage, W. H. Burt, Charles Burton, M. Starmer Hack, F. Hiorns, A. E. Hughes, Thomas A. Pole, G. O. Scorer, J. McLaren Ross, Herbert Shepherd, *Associates*. For the Members of Council 868 papers were returned, 20 of which the Scrutineers had to reject for informality; for the Associate Members of Council 832 were returned, and 22 had to be rejected; for the Standing Committees 810 papers were returned. The counting took

place on Friday the 8th inst., and lasted from 10.30 in the morning till 7.30 in the evening. On the motion of Sir John Taylor at the General Meeting last Monday a vote of thanks to the Scrutineers was passed by acclamation.

Proposed Class of Licentiates R.I.B.A.

At the General Meeting of Monday, the 11th inst., Mr. G. A. T. MIDDLETON [A.], in accordance with notice duly given and printed on the agenda, moved the following resolution—viz. "That the Council be instructed to consider the practicability of including all architects practising in the United Kingdom within the scope of the Institute." Mr. Middleton said that when he gave notice of the motion he had been asked what he meant by his proposal, and he had replied that it was a single move in a big game—a gambit move, as it were, in the game of registration—a move in which he risked comparatively little, and which might have far-reaching effects. Before playing his move he would like, he said, to review the position of the matter as it stood at the present moment. Among the ordinary members of the Institute a certain *modus vivendi* or agreement seemed to have been come to. Those in favour of registration and those opposed to it had agreed, as the result of the inquiry which had been held, that the present condition of affairs was not satisfactory; that something must be done to alter it; that that something must be of a drastic nature, necessitating a change in the Institute Charter in all probability, and an appeal to Parliament for an Act of some sort to give the Institute, or some other body, the necessary powers to deal with the existing state of affairs, and to produce something better out of it. Besides the Institute there was another body which was interested, and which had promoted a Bill in Parliament for several Sessions. He perhaps alone of all present was able to know what was going on in the body to which he referred. He wished to say that he had not been put up by that body in the least degree. He was speaking entirely for himself; but he could say, so far as that other body were concerned, that their determination was absolutely steady to proceed with the Bill until it passed; and as matters stood at present it looked as if that time of passing the Bill was drawing nearer and nearer, that it must come within a very few years unless something better could be produced. He had been concerned with this matter for over twenty years, and until lately it had been his belief that there was nothing better than that Registration Bill possible. He had now, however, come to the conclusion that something better was possible, and that it could emanate only from the Institute. It was this something better that he was asking the Council to take into consideration; for it was, he thought, possible to do within the In-

stitute what that Bill would force on the Institute from without. Everyone admitted that it was much better it should be done from the Institute than from anywhere else. That, at any rate, was his belief, and he saw no other way than by including all architects, not actually within the incorporation, but within the scope of the Institute, and within its rules, so that they should be bound by the conditions of professional practice which obtained there. That could be brought about, he believed, by the proposed Licentiate Class—not quite in the way originally proposed, but by compelling under the Act of Parliament all architects in practice who were not within the Institute to take out a licence to practise; to be, in fact, Licentiates in Architecture, and pay a small fee for their licence. That Licentiate Class would be a terminable class, disappearing altogether as time went on, so that there would be no further introductions into that class; but in the future permission to practise should only be given to such as were members of the Institute—that is to say, all future aspirants to practise as architects in the United Kingdom should be compelled to pass the Institute examination either in its present or some modified form as might be found desirable. The proposal to form a Licentiate Class of this sort would, he thought, meet with enormous outside opposition from the well-known practising men, particularly from responsible members of other Societies—the Society of Architects and the Allied Societies, for instance—unless they could be introduced as corporate members of the Institute. The difficulty in the way of doing this either as Fellows or Associates arose under the present Charter and By-laws, but it probably could be brought about by an Act of Parliament, particularly if it were possible to amalgamate the Fellows and Associates of the Institute into one class of Members. There was little reason now for the two classes. Now that all architects at the end of the present year would have to pass the examination, he could see nothing but good in amalgamation; it would do away with countless jealousies and difficulties which had hampered the Institute for many years. Personally, he could see very little difference between the two classes. The Associates had the same right of speech, and very nearly the same right of voting, as the Fellows. So far as he could see, the only privilege the Fellows had was to pay an extra two guineas per annum; but with the great number who would be introduced from outside they might very well waive that and have the whole of the membership subscription fixed at two guineas. There might be many other ways by which the scheme could be carried out. He had suggested one. He was only asking that the Council should take this into consideration.

Mr. A. W. S. CROSS, M.A. [F.], said that Mr. Middleton's resolution was of such a moderate nature

that, whether any practical good came from it or not, he saw no objection to its being passed. He had not gone into the details of the scheme, and could not tell how it would work; but at any rate it was worth the Council's attention, and he had very much pleasure in formally seconding the motion.

No further remarks being offered, the resolution was formally put from the Chair, and being voted upon by show of hands was declared carried.

Limited Competitions for Public Buildings.

At the same meeting the Chairman, Sir JOHN TAYLOR, K.C.B., called upon Mr. K. GAMMELL [A.] to bring forward two motions of which due notice had been given, but not in time to be printed on the agenda issued with the last number of the JOURNAL.

Mr. Gammell's motions were as follows:—

"That, in view of the fact that limited competitions are a great injustice to the young and unknown members of the profession struggling for recognition, and also not in the best interests of the promoters, this Institute declares that Competitions should not be limited, and that such steps should be taken as may be deemed advisable to discourage public bodies from instituting such Competitions."

"That the Institute exert its influence in obtaining the abolition of the growing custom of penalising non-acceptors by retaining their deposit."

Mr. GAMMELL, in his opening remarks, said that, in view of the discussion of Mr. Waterhouse's Paper which was to be resumed that evening, the time at his disposal was necessarily short, and he asked the indulgence of the Meeting for the possible bluntness of his remarks, which if he had had sufficient time he might have been able to make more diplomatic. His case was as follows. In December 1905 he received a letter from an Associate, written on his own behalf and on behalf of a number of other Associates of the Institute employed by public bodies in London, asking him to bring forward the first motion. The reason his correspondent gave for not bringing forward the matter himself was that it was more than his post was worth to do so. If that were the case, it would be admitted that such a state of things did not redound to the credit of the bodies employing such assistants. It might be urged that his correspondent was labouring under a misapprehension. In that case he would read a passage from a letter from Mr. P. W. Hawkins, which appeared in *The Builder* a short time ago with reference to the recent elections for Fellowship. The passage ran: "Fewer still, it is to be feared, can afford here in London to be publicly identified with the whole-hearted action of the provinces, with its attendant risk of

forfeiting the goodwill of their elders." He knew nothing of Mr. Hawkins except that he was an Associate of the Institute, and he assumed, in view of his letter, that he was not employed by a public body. He (Mr. Gammell) had endeavoured to induce a member of greater weight than himself to bring forward this motion, but had failed; hence it was that he found himself in the position of champion for what he termed, mistakenly or otherwise, the cause of youth and fair play. He was in ignorance as to the consensus of opinion one way or the other. If there were dissentients, he hoped he might win some, if not all, of them over to his side. Taking the competitions for the last five years, he had divided them into four classes, and he proposed to give one example from each. He wished it to be understood that in mentioning these examples he was making no personal charge, but merely a general one. His first example was the National Memorial to the late Queen Victoria. For this competition national money for a national object was invited; why then a limited competition? The second example was a public building—King's College Hospital extension. For this purpose money had been invited in a variety of ways; why, then, should the competition be limited to six selected architects? The third example was of a semi-public and semi-private nature—the new College at Bangor, North Wales. There, again, he believed, six architects had been chosen to compete. No doubt it was unreasonable to expect a building constructed by money privately subscribed, in part, if not in whole, to be thrown open to public competition. But it must, at any rate, be a matter for regret that no Welsh mine, so far as he could gather, appeared amongst the architects suggested. The fourth example dealt with county work, and he had selected for mention the late competition for the Secondary Schools at Luton. Had the whole of the architects invited to compete been Bedfordshire county men, probably little could have been said about it; but men from other counties were invited. The questions that then arose were: Why these particular architects; and why, above all, a limited competition? The other facts he wished to advance as disabilities were, first, that it was not allowable for members of the Institute to advertise; secondly, non-professional competition of commercial firms; thirdly, the tremendous odds a young man had to face in starting practice, odds which the winning of a competition often removes; fourthly, the request to members to abstain from certain competitions distasteful to the Institute. These points narrowed down the competition horizon very much indeed, and it seemed to him incumbent upon every member of the Institute to vote for this motion.—The speaker, in conclusion, moved his first resolution in the terms above set out.

Mr. WM. WOODWARD [P.] said he seconded the motion with great satisfaction. He particularly

remembered the limited competition for the Queen Victoria Memorial, and he was quite certain that the arrangements for that competition did not redound to the credit of the Institute. One difficulty he apprehended would be this: if a limited number of architects were invited to compete they would have to refuse, or they would be doing something which was not in accordance with the general rules of the Institute—assuming, of course, that they were agreed upon the matter, and that the Institute would take steps to discourage these limited competitions.

Mr. C. E. HUTCHINSON [A.], in supporting the motion, said he thought that public bodies and even international bodies had to some extent shown the way out of the difficulty. Quite recently, in the Hague competition, which was open to everyone, a certain number of architects from other countries had been invited to compete. That was, he supposed, with the object of getting the better known practitioners to compete. He thought every member of the Institute agreed with the principle involved, and would support it; he thought that the policy adopted in several recent competitions—viz. to give everybody a chance, and at the same time to invite better known practitioners to compete in addition—was the policy which would meet the difficulties that had so long existed.

Mr. A. W. S. CROSS [F.], in supporting the proposition, said it was only fair to the younger men that they should have a chance of showing what they could do.

Mr. E. W. HUDSON [A.] said the question of the competition for the County Hall had been referred to in connection with the Annual Report, and a question had been asked as to the competitors invited. An explanation was given to the effect that eminent men would not send in unless they were invited, but it was not stated whether that invitation conveyed an understanding that they would receive payment for their designs to compensate for the expense of the work.

Mr. GAMMELL said he understood on very good authority that the competition for the County Hall would be an open and also an invited one. Certain architects would be asked to compete, because it was recognised that it was desirable they should come in, and it was thought that that would be the best way of inducing them to do so.

Mr. G. H. FELLOWES PRYNNE [F.], while expressing himself in favour of the resolution, said he thought it would be going a little too far to say that "the Institute" declared that these competitions should not be limited—they ought to say "the Meeting" declared, &c.

Mr. W. H. HAYNES [A.] said that the motion seemed to him of a retrograde nature. Printed information had been sent to members for many years stating that a Committee was in existence whose aim was to limit the expense of competitions. The expense of forwarding finished plans

was more than most young men expected and some had suffered such mortification at their failure, after incurring so much trouble and expense, that they had had to leave the country, and in two cases failure had resulted in suicide. It certainly seemed to him advisable to limit the number engaged upon competitions.

Mr. EDWIN T. HALL [F.] said he had great sympathy with the proposal. He could not but feel, however, that it required very great consideration before the Institute adopted it, because in the first place it was not limited to competitions in connection with the expenditure of public money. Did Mr. Gammell mean that if people subscribed money to build a church, and they chose to ask half a dozen men to send in designs, those men were to refuse and to say that the competition must be thrown open to the whole profession? If that were his meaning, it would not be possible, and it would certainly not be possible for the Institute to write in such a case to the promoters and say that none of their members could compete; that although they had invited six members of the Institute they must not compete, but the competition must be thrown open to the whole profession. In such a case the game, he thought, would not be worth the candle. A church might be a very reasonable work for a few men to compete for, but if 150 men were to compete no architect in ordinary busy practice would dream of going in for it. It might be, again, that the promoters desired particular men to compete. He was in favour of giving to young men every chance; but they must not tie the hands of the Institute in such a way as to prevent promoters choosing architects to compete. He felt that the proposal was far too drastic to go forth with the authority of a General Meeting. To show that the Council were quite in sympathy with the spirit of this motion, when they were asked to advise the London County Council with regard to the competition for the new County Hall, the Council unanimously voted for an open competition. That was done to give every young man a chance. They also suggested that a few others should be invited. Known men who were very busy sometimes did not see their way to go in for competitions, and he was sure the public would not say this proposal was in their interest if as a result the busy men refrained from taking part in competitions. By all means let everyone have a chance of entering these competitions—the more open they were, the better. It was not, however, always practicable, and he thought there should be grave pause before such a resolution was passed. He should like to suggest, as an amendment, that the matter be referred to the Council with a view to their reporting to a subsequent General Meeting as to the practicability of carrying out the spirit, if not the letter, of the proposal which had been submitted.

Mr. W. HENRY WHITE [F.] said he would second

the amendment, in order that the matter might be referred to the Council for further consideration.

SIR ASTON WENN, R.A. [F.], said he had had something to do with competitions from time to time, both open and limited, and he should like to see young men have all the opportunities they wanted. They ought not, however, to have too many opportunities for competition, for he did not think they would make a living by competitions. But an occasional little venture he saw no harm in at all. He thought Mr. Hall's proposal the only reasonable one: the Council should be asked to undertake without delay the consideration of the question. He did not think, however, that it would be wise for the Meeting to lay down a broad principle without having the advantage of the consideration of the Council as to how it might be carried out.

MR. GAMMELL pointed out that his motion had to do only with public buildings erected with public moneys. It was not a question of buildings erected partly by public funds and partly by private funds.

MR. H. V. LANCHESTER [F.] said he thoroughly sympathised with the proposer of the motion. The limitation placed upon the resolution seemed a very moderate one. There was a strong feeling among public bodies that they were impeded by such restrictions; it had been implanted in them by the theory of public competition in trade matters, such as tenders for builder's work, &c. For the sake of the profession and with a view to getting good results they should take advantage of that feeling by urging that competitions should be open, whether the funds for the work were to be provided by public money or not. He certainly agreed with the principle of the motion and should vote in support of it.

THE CHAIRMAN expressed his concurrence with the remark that had been made, that that Meeting had not the right to decide a question without its having first been brought to the notice of the Council. He thought the resolution should be worded so as to go to the Council as a recommendation to take into consideration the desirability of competitions being open to the whole profession, and to take such steps as may be deemed advisable to discourage public bodies from instituting limited competitions. The Council should be put in the dominant position to begin with.

SIR ASTON WENN said he was still in favour of Mr. Hall's amendment. The Council would then be in a position to thoroughly digest the proposal to amend it if they thought necessary, and to bring it up again at another meeting.

MR. JOHN SLATER [F.] pointed out that members had had no previous notice of this motion, and for that reason they ought not to come to a decision at that meeting. It was rather a drastic proposal, and if it had been published in the *JOURNAL*, as under ordinary circumstances would have been the

case, every member of the Institute would have had notice, and a decision might have been come to at that meeting. Mr. Gammell, as a fact, had given the notice required, and it was felt that he ought not to be prevented from bringing his motion forward. Nevertheless the motion had been practically sprung on the Meeting—he did not say it in any offensive sense, but it was the case—and he could not help thinking, even if Mr. Gammell carried his motion, he would carry it with greater force if he waited for another meeting when due notice might be given.

MR. GAMMELL expressed his entire agreement with Mr. Slater's proposal, and said if he could bring the motion up again he should be pleased to let it stand over.

THE CHAIRMAN: For this occasion you withdraw your motion?

MR. GAMMELL: I withdraw the motion, and it will be slightly amended when I again bring it forward.

THE CHAIRMAN: Do you also agree to the suggested amendment?

MR. GAMMELL: No; I will amend the motion and bring it forward again.

The New Government Buildings.

In the House of Commons on Thursday last Mr. P. W. Wilson (St. Pancras, S.) asked the First Commissioner of Works whether he had received any representations respecting the towers which appeared upon the plans of the new Government buildings facing Great George Street; and whether he was prepared to authorise the construction of any or all of those towers.

MR. HARCOURT, in reply, said he had received a strong representation from the Council of the Royal Institute of British Architects in favour of the completion of the towers on the Great George Street front of the new public offices, and that he had replied to them in the following letter:—"I am much obliged by your letter of the 25th. Though I maintain my own opinion that the proposed very high towers on the Great George Street front of the new public offices are not architecturally or aesthetically desirable, I am not prepared to put my artistic opinions against those of the Council of the Royal Institute of British Architects. I have therefore given immediate instructions that the single tower of the building now in course of construction shall be continued and completed on the lines originally laid down by Mr. John Brydon. I need not say that I shall always greatly value any criticism or assistance that the Institute is good enough to afford me in that part of my duties which is connected with architecture." Mr. Harcourt added that he had asked the contractors to see that, as far as possible, the masons to be engaged on this work shall be those who were discharged on its suspension, and the contractor had promised to meet his wishes.

Royal Victoria Hospital, Belfast.

Messrs. Henman and Cooper request that the following extracts from the last Annual Report of the hospital should be published in the JOURNAL:

"The Annual Meeting was held in the Extern Department, at twelve o'clock noon, on Wednesday, the 28th March 1906.

"R. H. S. Reade, Esq., D.L., occupied the chair.

"The Hon. Secretary (Mr. Joshua Pim) submitted the Annual Report, which was taken as read, and the Hon. Treasurer (Mr. James Davidson) read the financial statement, after which the Chairman moved that the Report be received, adopted, and entered upon the Minutes.

"This was seconded by Sir Otto Jaffé, and passed unanimously.

"The Royal Victoria Hospital is doing a great and beneficent work, as the large number of patients skilfully treated within its walls abundantly testify; and this is corroborated by the practically unanimous verdict of all visitors thereto, but more especially by that of the distinguished medical and surgical experts from many parts of the world, who have pronounced it one of the best arranged and most up-to-date hospitals it has ever been their good fortune to inspect."

The Cost of Public Elementary School Buildings.

The Report of the Education Committee of the London County Council, just issued, states that the Committee have gone thoroughly into the question of the cost of erecting schools, and the experience gained during their investigations will result, they think, in a decrease in the future cost of erection of these buildings, without detriment to the necessarily high standard of quality and efficiency the Council have to maintain. The Committee have had submitted to them plans of a typical school for 1,176 children, consisting of three one-story buildings, to be erected on a perfectly level and large site to be selected, requiring no retaining walls or terracing, nor extra deep foundations, and the boundaries being of oak fencing instead of a brick wall. The cost of a school of this design is estimated as follows:—

Main school buildings complete, £18,664, equivalent to £11. 12s. 4d. a place.

Main school buildings, including inclosing and draining site, &c., £17,884.

Total cost, including possible extras, lithography, furniture, supervision charges, &c., £19,659, equivalent to £16. 14s. 4d. a place.

The cost per foot cube would be 6½d.

Touching architectural considerations, the report says: "An item in the cost of schools is the amount of decorative detail put into them. The policy of the late authority was almost always to give these structures, as public buildings, some dignity of appearance, and to make them ornaments rather than disfigurements to the neighbourhoods in which they were erected. Where, in a few cases, striving after the sternest economy has led

to very plain buildings being erected, as in the case of Trundley's Road (Deptford), Enfield Road (Hackney), Ellerslie Road (Hammersmith), and one or two others, the resentment of those who contrasted the appearance of these with other schools in the neighbourhood led to a reversion to the more ornamental type. It was found that the difference between the cost of buildings erected on utilitarian lines and those designed with some regard to materials, colour, and style was about 5 per cent. At the same time this ornamental appearance has been secured either by richness of detail or by a dignified grouping of masses—in some few instances a greater amount of decorative work has been introduced into the buildings than has been permitted to continue after fuller experience of the cost involved."

Fletchers on Dilapidations, 6th Edition.

Messrs. Banister F. and H. Phillips Fletcher send the following in reference to the review of their book in the last number of the JOURNAL:—

"In the review of the above book Mr. Max Clarke suggests that some information as to fees should be given, and that the liability of lessors and lessees in this respect might be discussed.

"May we point out that Appendix I. gives the charges sanctioned by the Schedule of the Institute? Information as to the liability for the payment of fees by lessors and lessees is to be found in the case of *Skinner's Company v. Knight*, and the Conveyancing and Law of Property Act, 1892.

"The report of this case (and others affecting this issue), together with the extract from the Act, are fully set out on pages 111 to 120 of our book."

The Sanitary Congress.

The Royal Sanitary Institute preliminary programme of their Congress to be held in Bristol from the 9th to the 14th July is now issued. Sir Edward Fry is President of the Congress. The Architectural Section is presided over by Mr. Edwin T. Hall [F.], and among the Papers is one by Mr. A. Saxon Snell [F.] on "The Construction of Isolated Homes for the Aged Poor *versus* The Workhouse." A Conference of Municipal Representatives will be held, and the subject of "The Rational Extension of Modern Cities" introduced by Mr. Arthur Richardson, M.P.

Obituary.

In *The Times* of yesterday is announced the death, on the 13th inst., at the age of ninety-four, of Mr. ANDREW MOSELEY, for sixty-eight years a member of the Institute. Mr. Moseley joined the Institute as Associate in 1838, proceeded to the Fellowship in 1850, and was placed on the list of Retired Fellows in 1902. Mr. Moseley had served on the Institute Council.

Intimation has also been received of the death of Mr. PHILIP WILKINSON, of 68 Lincoln's Inn Fields, *Fellow*, elected 1890.

The late George Low [F.].

At the ripe old age of eighty-two, Mr. George Low has passed away, having kept up his professional work till within a few weeks of his death. At the early age of 14½ years he was placed in the offices of George Smith (Surveyor to the Mercers' Company) and William Barnes, with whom he served his articles. In 1842 he was elected a Student of the Royal Academy of Arts, and in 1844 was awarded by the Council of the Academy the first Silver Medal for the best measured drawings of the Church of St. Mary Woolnoth. These drawings were presented by Mr. Low, some years ago, to the Institute Library. In 1847 he commenced practice, and in 1850 was elected an Associate of the Institute, becoming a Fellow in 1860. In 1850 his design for a Town Hall and Market at Hemel Hempstead was selected in open competition, and the building was subsequently erected from his designs, and later added to, in conjunction with his son, Mr. Ralph Low [A.]. In 1855-65 he erected large business premises in Northampton and Dunstable. Subsequently, up to his death, he enjoyed a large general practice, varied in character, and consisting of churches, Church schools, Board schools, private residences, and large commercial premises in the City and elsewhere. Since 1885, in partnership with his son, Mr. Ralph Low, he erected a large number of warehouses, blocks of shops, business premises, and private residences. Mr. Low was well known as a compensation surveyor and arbitrator, being engaged in a very large number of these cases for the Metropolitan and Metropolitan District Railway in the acquisition of property for the construction of their lines, and was one of the arbitrators employed by the Post Office authorities in connection with the property required for the new Post Office buildings in St. Martin's-le-Grand. The practice is being continued by his son.—WM. WOODWARD.

MINUTES. XV.

At the Fifteenth General Meeting (Business and Ordinary) of the Session 1905-06, held Monday, 11th June 1906, at 8 p.m.—Present: Sir John Taylor, K.C.B., *Vice-President*, in the Chair, 25 Fellows (including nine members of the Council), and 39 Associates (including one member of the Council), the Minutes of the Meetings held 21st May 1906 [p. 396] were taken as read and signed as correct.

The Hon. Secretary drew attention to a list of works recently presented to the Library (see *Supplement*), and a cordial vote of thanks was passed to the donors.

The Secretary announced the results of the polling for the election of the Council and Standing Committees for the official year 1906-07, as reported by the Scrutineers, viz.:—

PRESIDENT.—Thomas E. Colclatt (*unopposed*).

VICE-PRESIDENTS.—James S. Gibson, Edwin T. Hall, Henry T. Hare, Leonard Stokes (*unopposed*).

HONORARY SECRETARY.—Alexander Graham (*unopposed*).

MEMBERS OF COUNCIL (18).

Elected: Ernest George, 646 votes; Reginald Blomfield, 635; Guy Dawber, 551; Ernest Newton, 548; John

Slater, 540; Paul Waterhouse, 536; A. N. Prentice, 479; J. Alfred Gotch, 476; W. D. Carde, 459; E. A. Gruning, 459; A. W. S. Cross, 452; G. H. Fellowes Prynn, 435; J. J. Burnet, 428; E. W. Mountford, 423; E. L. Lutyens, 404; O. E. Mallows, 386; Wm. Flockhart, 366; Wm. A. Pite, 365.

Not elected: W. H. Seth Smith, 353 votes; John W. Simpson, 348; Professor F. M. Simpson, 341; C. Harrison Townsend, 335; George Hubbard, 332; W. H. Atkin Berry, 309; S. Perkins Pick, 302; H. Percy Adams, 292; Edmund Wimperis, 263; Maurice B. Adams, 260; Max Clarke, 258; Frank T. Verity, 251; R. Selden Wornum, 238; W. Gillbee Scott, 235; Charles Heathcote, 225; Frank L. Pearson, 218; Lewis Solomon, 200; John Murray, 184; A. Hessel Tiltman, 164.

ASSOCIATE MEMBERS OF COUNCIL (4).

Elected: H. V. Lanchester, 623 votes; S. K. Greenslade, 474; W. A. Forsyth, 424; H. A. Crouch, 399.

Not elected: H. W. Wills, 260 votes; C. E. Hutchinson, 241; E. A. Young, 198; H. Passmore, 190; S. H. Hamp, 176.

REPRESENTATIVES OF ALLIED SOCIETIES (9).

Elected: H. S. Chorley, 623 votes; W. M. Mitchell, 623; E. Kirby, 611; H. D. Bryan, 609; J. H. Woodhouse, 575; H. O. Tarbolton, 541; J. M. Monro, 531; H. Reed, 528; H. H. Thomson, 462.

Not elected: J. T. Cackett, 461 votes; A. Pollard, 438; J. H. Phillips, 403; P. H. Thoms, 226.

HON. AUDITORS.

Sydney Perks, *Fellow*; W. Arthur Webb, *Associate*.

ART STANDING COMMITTEE.

Fellows (10).—*Elected*: Ernest George, 662 votes; Henry Thomas Hare, 601; Ernest Newton, 547; Edward Guy Dawber, 520; James S. Gibson, 458; Reginald Blomfield, 448; Professor Lethaby, 445; E. S. Prior, 431; Paul Waterhouse, 428; W. D. Carde, 417.

Not elected: J. Macvicar Anderson, 416 votes; J. J. Burnett, 409; William Flockhart, 401; John W. Simpson, 350; H. C. Corlette, 325; George C. Sherrin, 227; Robert Watson, 220.

Associates (6).—*Elected*: W. A. Forsyth, 641 votes; R. S. Balfour, 633; S. K. Greenslade, 631; H. V. Lanchester, 614; A. T. Bolton, 596; John Anderson, 563.

Not elected: J. S. Lee, 354 votes.

LITERATURE STANDING COMMITTEE.

Fellows (10).—*Elected*: R. Phené Spiers, 632 votes; Reginald Blomfield, 597; Professor Lethaby, 505; E. S. Prior, 497; Professor F. M. Simpson, 489; Paul Waterhouse, 482; Hugh Stannus, 466; A. W. S. Cross, 437; Halsey Ricardo, 434; Professor Elsey Smith, 373.

Not elected: H. Favarger, 331 votes; G. H. Fellowes Prynn, 330; C. Harrison Townsend, 329; John Bilson, 272; H. C. Corlette, 272; C. E. Mallows, 261; Ambrose Poynter, 240; R. Falconer MacDonald, 169.

Associates (6).—*Unopposed*: W. A. Forsyth, Frank Lishman, W. H. Ward, P. Leslie Waterhouse, Arthur M. Watson, Percy S. Worthington.

PRACTICE STANDING COMMITTEE.

Fellows (10).—*Elected*: W. H. Atkin Berry, 497 votes; A. Saxon Snell, 494; Max Clarke, 492; J. Douglass Mathews, 471; T. H. Watson, 469; W. Henry White, 468; Geo. Hubbard, 455; John Murray, 419; Sydney Perks, 383; C. H. Brodie, 370.

Not elected: H. A. Satchell, 334 votes; Ernest Flint, 331; C. Reilly, 312; A. H. Kersey, 307; T. Batterbury, 298; Andrew Murray, 268; Brook Kitchin, 213; Wm. Pywell, 187.

Associates (6).—*Elected*: A. W. Tauner, 519 votes; T. E. Pryce, 464; E. Greenop, 421; E. B. Hewitt, 421; H. H. Langston, 408; R. Stark Wilkinson, 405.

Not elected: W. Chas. Wymouth, 342 votes; G. R. Julian, 310; A. R. Mayston, 256; E. Carritt, 225.

SCIENCE STANDING COMMITTEE.

Fellows (10).—*Elected*: Max Clarke, 515 votes; H. D. Searles-Wood, 502; B. J. Dicksee, 476; A. Saxon Snell, 441; C. Stanley Peach, 425; Sydney Perks, 402; T. W. Aldwinckle, 391; Francis Hooper, 383; Lewis Solomon, 382; Matt Garbutt, 364.

Not elected: Ernest Flint, 347 votes; B. Tabberer, 343; Arthur Crow, 318; A. Ashbridge, 309; G. Hornblower, 303; Wm. Dunn, 286; Arthur J. Gale, 284; W. E. V. Crompton, 249.

Associates (6).—*Elected*: H. W. Burrows, 501 votes; A. W. Tanner, 479; E. R. Hewitt, 432; Geo. Pearson, 369; E. A. Young, 361; R. J. Angel, 300.

Not elected: E. J. Bennett, 286 votes; F. W. Hamilton, 284; S. B. Beale, 274; Wm. Jacques, 244; F. W. Ledger, 232.

The Chairman declared the Officers, Council, and Committees duly elected in accordance with the Scrutineers' Report, and a vote of thanks to the Scrutineers for their services in connection with the election was passed by acclamation.

The following candidates for membership were elected to the various classes by show of hands under By-law 9:—

AS FELLOWS (40).

CHARLES HERBERT ASHWORTH (Dublin).
 THOMAS BAIRD, JR. (Glasgow).
 ANDREW BALFOUR (Glasgow).
 ROBERT SHERKLETON BALFOUR [A. 1893; *Institute Medallist Drawings* 1892, *Pugin Student* 1894, *Title Prize* 1895, *Some Medallist* 1896].
 ANDREW BLACK (Glasgow).
 GEORGE BLAND (Harrogate).
 PERCIVAL BOWN (Harrogate).
 WALTER HENRY BRIERLEY, F.S.A. (York).
 JOHN DIXON BUTLER.
 JOHN ARCHIBALD CAMPBELL (Glasgow).
 HENRY EDWARD CLIFFORD (Glasgow).
 JOHN McLEAN CRAWFORD (Glasgow).
 NEIL CAMPBELL DUFF (Glasgow).
 WILLIAM NEWTON DUNN [A. 1882].
 WILLIAM ADAM FORSYTH [A. 1895].
 WILLIAM YENN GOUGH [*Class of Proficiency Vol. Arch. Exam., formerly Associate*] (Bristol).
 JOHN HAMILTON (Glasgow).
 WILLIAM CECIL HARDISTY (Manchester).
 FREDERICK GEORGE HICKS (Dublin).
 JAMES KENNEDY HUNTER (Ayr, N.B.).
 ARTHUR BLUMFIELD JACKSON [A. 1891].
 RICHARD CROFT JAMES [A. 1896] (Bristol).
 WILLIAM THORPE JONES (Durham).
 HENRY VAUGHAN LANCHESTER [A. 1889, *Owen Jones Student* 1889-90].
 CHARLES HENRY LÖHR [A. 1878].
 ROBERT STODART LOHMER [A. 1890], A.R.S.A. (Edinburgh).
 ROBERT JOHN MACBETH (Inverness).
 WILLIAM F. McGIBION (Glasgow).
 HUGH PATRICK GU RIN MAULE [Master of the Architectural Association Day School, *Inst. Medallist Drawings*] 1890].
 ROBERT MILLER (Glasgow).
 EDWIN ALFRED RICKARDS.
 FREDERICK WILLIAM ROBERTS (Taunton).
 GEORGE HANSON SALE (Derby).
 ROBERT DOUGLAS SANDILANDS (Glasgow).
 ALEXANDER SKIEVING (Glasgow).
 JOHN THOMSON (Glasgow).
 WILLIAM STREET WILSON [A. 1882] (Durban, Natal).
 WILLIAM HENRY WOOD (Newcastle-on-Tyne).
 HENRY THOMAS WRIGHT (Newcastle-on-Tyne).

AS ASSOCIATES (4).

EDWIN ALBERT AGUTTER [*Probationer* 1898, *Student* 1902, *Qualified for Associateship*, 1905] (Pietermaritzburg, Natal).
 JOHN BARR [*Qualified Special Examination*, 1905] (New South Wales).
 ASHLEY FLORIAN BENJAMIN [*Probationer* 1902, *Student* 1902, *Qualified for Associateship*, 1905].
 JOHN TALLENTS WYNARD BROOKE [*Probationer* 1898, *Student* 1901, *Qualified for Associateship*, 1904] (Manchester).

AS HON. ASSOCIATE.

CECIL HARCOURT SMITH, LL.D., Keeper of Greek and Roman Antiquities at the British Museum.

AS HON. CORRESPONDING MEMBERS (2).

JOSEPH THEODORE JOHN CUYPERS, C.E. (Amsterdam).
 HERMANN MUTHESIUS (Berlin).

Mr. G. A. T. Middleton [A.] having moved in accordance with notice duly given and printed on the agenda, Mr. A. W. S. Cross, M.A. [F.], seconded, and it was

Resolved, that the Council be instructed to consider the practicability of including all architects practising in the United Kingdom within the scope of the Institute.

Mr. K. Gammell [A.], in accordance with notice duly given in compliance with the By-laws, but not received in time to be printed on the agenda and issued in the usual manner, brought forward the following motions—viz.:

"That, in view of the fact that Limited Competitions are a great injustice to the young and unknown members of the profession struggling for recognition, and also not in the best interest of the promoters, this Institute declares that Competitions should not be limited, and that such steps should be taken as may be deemed advisable to discourage public bodies from instituting such Competitions."
 "That the Institute exert its influence in obtaining the abolition of the growing custom of penalising non-acceptors by retaining their deposit."

Mr. Gammell moved, and Mr. Wm. Woodward [F.] seconded, the first resolution as above printed.

Mr. Edwin T. Hall, Vice-President, moved as an amendment, and Mr. W. Henry White [F.] seconded, that the matter be referred to the Council with a view to their reporting to a General Meeting as to the practicability of carrying out the spirit, if not the letter, of Mr. Gammell's proposal.

After some discussion Mr. Gammell accepted a suggestion of Mr. John Slater, B.A. [F.], that in view of the fact that members had not received notice of the motions he should withdraw them for the present, Mr. Gammell stating that he would bring them up again in a slightly amended form.

Discussion was resumed of the Paper by Mr. Paul Waterhouse, M.A. [F.], entitled "Some Observations on the Report of the Royal Commission on London Traffic, with special reference to the proposed Formation of New Thoroughfares," and on the motion of Mr. H. D. Searles-Wood [F.], seconded by Mr. John Slater, the Meeting

Resolved, unanimously, that the Council present a Memorial to the Government urging that, as the Royal Commission on London Traffic reports it to be necessary to open up new thoroughfares and communications, it is most desirable, in order to preserve the architecture of London, that the profession of architecture should either be represented on the Board, or that a professional adviser or advisers should be employed by the Board that will be formed to deal with the laying-out of the new thoroughfares.

The proceedings then closed, and the Meeting separated at 10.15 p.m.



Photo. Miss L. Connell, 50 Greville Road, N.W.

Yours truly
L. Alma-Tadema

SIR LAWRENCE ALMA-TADEMA, O.M., R.A., F.S.A.
HON. FELLOW R.I.B.A.
ROYAL GOLD MEDALLIST 1906.



THE ROYAL GOLD MEDAL, 1906.

Presentation to Sir LAWRENCE ALMA-TADEMA, O.M., R.A., F.S.A. [*H.F.*]
Monday, 25th June 1906.

ADDRESS BY MR. JOHN BELCHER, A.R.A., *President.*

LADIES AND GENTLEMEN,—

I COUNT myself peculiarly fortunate in that it falls to my lot to-night to present the Royal Gold Medal to so great an artist as Sir Lawrence Alma-Tadema.

You know how sincerely I have desired, how earnestly I have striven, to effect a close relation between the arts, to bring the painter and the sculptor into association and collaboration with the architect for the achievement of the noblest results—results which shall be a triumph of art in its unity and entirety.

It is a very happy occasion for me, therefore, when I am called, on behalf of this Institute, to do honour to a man like Sir Lawrence, who is not only one of the first of living painters, but has also shown so fine an appreciation and so great a knowledge of architecture—both on its artistic and its practical side—that it has been said that if choice or destiny had not determined him an eminent painter, he might have been a still more eminent architect.

The Gold Medal presented by the King is, as you are aware, conferred annually upon one who is recommended by this Institute and approved of by His Majesty as having designed or executed a building of high merit, or as having produced a work tending to promote or facilitate the knowledge of architecture.

Our distinguished member Sir Lawrence Alma-Tadema is qualified on both grounds. Indeed, he has rendered such good service to our art—indirectly for the most part it is true, yet not the less substantially and really—that, though he is known to the world chiefly as a great painter, the Institute has felt no hesitation whatever in presenting his name to the King for the Royal Gold Medal; and His Majesty has, with equal readiness we believe, recognised Sir Lawrence's merit and graciously approved the Institute's choice.

We have all admired the fine architecture which is so beautiful a feature in many of Sir Lawrence's pictures. Before we speak of that, however, let me tell you, what probably some may not know, that Sir Lawrence is an architect. If you have had the privilege of examining the house and studio which he has built himself in St. John's Wood, you will have recognised the hand of a master in every part of it.

Not only is it an interesting and delightful building for the ordinary visitor, full of beautiful features which meet you and surprise you at every turn, but it possesses also many details which are worthy of the architect's careful study. The smallest and most insignificant details, in fact, such as would probably escape the layman's attention altogether, have received an amount of thought and care which is both unusual and suggestive. I learnt much

that has been useful in Sir Lawrence's house, and its many novel and effective features impressed me greatly.

If you ask me what "style" it is—rather an incautious and self-betraying question—I reply, "It is real *Alma-Tadema*," and that means, at any rate, that it is instinct with life.

"To copy and imitate is death to art" is one of Sir Lawrence's principles, and though his archaeological knowledge and skill are beyond dispute, and in respect of certain periods and countries unrivalled, yet in his own house he has known well how to be original—both in the arrangement of the plan and in the adaptation of forms and materials to his particular purpose. All is fresh and beautiful, and parts of the house possess a character and environment which would make a Roman of the times of the Empire feel quite at home—even in St. John's Wood. I say a Roman advisedly, of course, because, as we all know, ancient Rome has been Sir Lawrence's chief theme as a painter. He has, I believe, saturated himself with the beauties and glories of Italy—as that great country was before its sun went down. He is probably the first living authority on the art work of Greece and Rome, and that not merely on the æsthetic side, but on the practical constructive methods that were then in use.

His research has been of the widest scope. He has not been content with studying the grand structures and remains of ancient buildings. He has ventured amongst the tombs, both Etruscan and Lycian. He has had an eye for Assyrian bas-reliefs, terra-cotta slabs, and all those miscellaneous relics which are to him who knows how to read them a revelation of the history of the past, an index of the power and spirit of vanished nations. This is how it is that Sir Lawrence has been able to use his great gifts to portray for us the architecture of the past, particularly of Rome, in all its magnificence.

He is never satisfied with a mere suggestion or rough indication of a building. Every single detail, each moulding or other ornament, is most carefully and truthfully set forth. It must be the best of its kind too—something selected for its beauty, and finished and refined with perfect taste. What a wealth of material, too, he employs, and how he revels in the expressive qualities of each kind!

Has anyone else presented, or will anyone ever present, the translucent properties of marble so well as he?

Whether it be marble, stone, bronze, or silver, he has studied the forms most suitable to each, that everything may be perfect both in form and colour.

And then he portrays the whole for us under the sunny skies of Italy, that the beauty of the artist's work may be lighted up and intensified by the beauty and glory of the world of nature!

As an indication of the interest that Sir Lawrence takes in other forms of art than that which he has made expressly his own, I may cite two well-known pictures of his, "Architecture in Ancient Rome," in which he depicts the architect engaged on his work, and another in which the sculptor Phidias is represented putting the finishing touches to the Parthenon frieze and explaining it (apparently) to his friends and patrons.

He has also given us a picture of a sculptor's studio and a corresponding one of a painter's studio.

Architecture figures more or less conspicuously in quite a large proportion of Sir Lawrence's paintings, as you may see by the photographs which he has kindly lent for your inspection this evening. In some it is quite a (if not the) prominent feature, as, for instance, the picture in which he has reconstructed the Roman Colosseum, and another representing the Baths of Caracalla in all their splendour—magnificent paintings, both of them, impressing us with a conviction of the absolute accuracy of every detail, such as only an architect could reproduce.

I must not attempt to speak of all Sir Lawrence's paintings that contain architectural accessories—a bit of an exterior in this one, a bit of an interior in that, and so on—pictures in which the architectural element is naturally and properly limited, and made subservient to the figures in the composition. But this I should like to say, that, however much, or however little, may ultimately find place in the actual canvas, it has all been carefully planned and set up in section first.

There is one of Sir Lawrence's pictures which presents a complete architectural work, filling indeed the major part of the canvas. I refer to the painting known as "Down the River," which contains the whole of a well-designed bridge of five arches, a reconstruction—idealised no doubt—of the celebrated Bridge of Augustus at Rimini. The four piers contain good-proportioned niches occupied by bronze statues, and framed with column, cornice, and pediment. The parapet is perfectly plain and, like the arches, without moulding. The bold cornice which separates parapet and arches is horizontal. The arches vary in height, and evidently follow the curve of the roadway. Over the centre arch is a raised stone block panelled for lettering, and above that again a recumbent river-god. At one end of the bridge may be seen an arched entrance to the roadway. The whole treatment is simple and dignified, and the effect of the long horizontal line of the cornice is particularly good.

But as a wonderful illustration of Sir Lawrence Alma-Tadema's architectural knowledge, and the clearest proof of the practical value of his archaeological researches, I desire to direct your attention to the series of designs which he made for Sir Henry Irving for the scenery to illustrate Shakespeare's play of "*Coriolanus*."

Here we have whole buildings, and even groups of buildings, exteriors, and interiors presented with a marvellous appearance of solidity, and marked, not only by a wealth of beautiful detail, but also—which is perhaps more wonderful—by complete constructional fidelity.

Mr. Phœnix Spiers, writing of these scenes in the *Architectural Review*, makes a point of the constructive genius displayed in them, and remarks that Sir Lawrence's "interpretation, based on the most profound archaeological research, of the variety of design in Etruscan architecture comes to us virtually as a revelation." Quite apart from the beauty of the colouring or the picturesqueness of the grouping, the actual designs fill us with admiration.

In the Roman Forum scene, for instance, as shown in the original drawings, Sir Lawrence has reconstructed the Forum buildings for us after a manner which we instinctively feel is absolutely true, not only to the general form and spirit of Roman work, but also to the particular period in which the play passes; and as for detail, even the construction and framing of the timbers are carefully shown.

In the widely projecting timber eaves which constituted a striking feature in the typical Etruscan Temple the artist has treated a somewhat difficult problem.

This great projection (over seven feet) of the beams which support the boarding of the roof and gutter was intended to protect the wall decorations beneath them.

But these single beams, relatively to the whole, looked thin and weak; so Sir Lawrence added two extra ones underneath, of shorter length, thus dividing the projection into three parts. He also terminated each timber end with a bracket, just as we see in some of those old ceilings where the joists are exposed and the span is great. Mr. Spiers, himself no mean authority, speaks of this treatment as both original and effective.

Then there is the house of Tullus Aufidius—a beautiful design with a projecting and overhanging balcony of wood, full of detail, evincing great technical knowledge. The charm of the whole scene in which this is presented will not easily be forgotten.

In another scene there is a very striking entrance doorway or projecting portico, the

upper part of which, covered in by a semicircular roof of bronze plates, forms a kind of outlook. The constructive timbers, with their tenons and pins, are all carefully shown in this design. The general form has been probably suggested by some old tomb, but the details are fresh and original.

Amongst the beautiful interiors presented in these designs we may mention the Senate House and Coriolanus's house. In the latter the excellence of the plan, the beauty of the colouring, and the effects of light and shade attract our attention and excite our admiration.

The arrangement of the Senate House is simple and withal impressive. The beautifully moulded square Etruscan piers, enclosing the hemicycle of stone seats ranged in tiers above one another, are very fine in scale, their apparent size being increased by their contrast with the small figures of the projecting Etruscan frieze above. Between the piers and the frieze is an architrave marked by a curious and effective square block corbel.

I have indicated a few of the most striking features in this wonderful series of designs, but no words of mine can convey any adequate conception of the amazing wealth both of knowledge and of skill to which they bear witness.

When we consider the many and varying elements which go to make up their truth and their beauty, we can only wonder that they all fall within the scope of one man's powers. To one of the rarest of gifts as a painter Sir Lawrence Alma-Tadema adds the powers of a great architect, and endows all his work with a perfection of taste and a fulness of knowledge which in their combination are unrivalled.

The rising generation, who are not too old or too proud to learn, may profit much by Sir Lawrence's example.

He has shown to all men the immense importance of accurate and careful detail. He is a living witness to the truth that the ultimate refinement of all work depends upon the amount of thought and study bestowed upon each and every part.

Furthermore, all his work is an illustration of the right and true use of archaeological knowledge. Though he is well versed in all the forms and details in use amongst the Romans, he has not been content merely to copy and imitate their work—he has advanced it along the old lines, after the traditional manner and in the true spirit of the original. He has not cast aside the experience of the past, but has shown us how it can be rightly used and carried forward.

His work has given us a true insight into the methods by which alone our beloved art can be advanced and made to live.

In the presentation of the Royal Gold Medal we recognise and acknowledge Sir Lawrence Alma-Tadema's services to architecture—in promoting a knowledge of and quickening an interest in it—and we are glad to be thus permitted to honour him.

He has had many honours conferred upon him. He received his first gold medal at the age of twenty-six; I am not sure how many he has received since. But not one of all the many distinctions that have been conferred upon him has been bestowed with more heartfelt pleasure and more real esteem than the Medal I have now the honour of presenting.

SIR L. ALMA-TADEMA'S REPLY.

THE sun has often shone upon me in the course of my life, but it has never warmed me more than at this moment, when the apostles of architecture have bestowed upon me that great distinction, the Royal Gold Medal, for services rendered to the well-beloved sister art.

Our kind President has honoured me by explaining to you my connection with architecture; and I am proud to think that my poor services, to an art which I love beyond expression, have been thought worthy of consideration, although, when I compare my achievements with my love, it seems to me that I have done very little.

The sister arts have always appeared to me indivisible—different parts of a single whole; and I realise that from this point of view I might be regarded as a link of some interest, my own particular art being so closely concerned with architecture that I was myself at times almost tempted to believe I knew something about it!

It would no doubt be enlightening if we could point out to one another the causes that lead us each to his peculiar bent in the pursuit of a common ideal; but none of us really knows what impelled him to choose a certain pathway in the kingdom of art.

Art is so manifold in its aims and expressions that it seizes every one of us in a different way, and yet in the same way; it seems to take possession of us, and forces from us different expressions of the same truth. What this truth is no man has yet been able to define; it always seems to me that art is an expression of the human mind which exists merely because it is an expression of beauty; and, to quote Winckelmann's fine definition: "Beauty is one of the great secrets of nature, of which we all behold, and receive the influence, but of which a general and clear understanding belongs to the eternally unfathomable truths."

Indeed art is a thing about which one cannot speak or reason; yet it is a thing that fills one with emotions and expressions which one spends one's life trying to communicate to one's fellow-creatures, in the silent language of one's craft; if once art has a foothold in a man's nature it masters him, and forces him to do this, it convinces him that he is bound to communicate his impressions, that he may not keep them to himself, and that there is no happiness for him unless he can share with all the world that which possesses him so deeply.

Every artist is conscious, therefore, that he has little to say concerning his artistic aims and ideals beyond what can be read in his work.

I have taken the liberty of showing you, by permission of the President and Council, a few reproductions of my pictures, in order to prove to you how greatly my mind has always been pre-occupied by architecture in the execution of my own art.

I should, of course, have preferred to show you the pictures themselves, but, with the exception of a few, they are all abroad. You will see that in some I have tried to reconstruct antique buildings; in others I have been concerned with the proportions of figures to architecture—I am even showing you a composition of a Gothic entrance to a cathedral, exhibited as long ago as 1857, to prove to you that my very beginnings were architectural; and a painting of the Church of St. Clemente in Rome, dated 1863, will show you that during my first visit to Italy, at a moment when I was steeped in studies of the Merovingian period, I was mainly pre-occupied by the study of Early Christian churches.

I cannot sit down without a sincere expression of gratitude to the President for his all too kind words of goodwill towards me and my art; and to you, ladies and gentlemen, for the way in which you have sympathised with me in the receipt of this honour, which, I am happy to feel, has met with the approval of His Majesty.



MR. L. ALMA-TADEMA'S PICTURES ON THE WALLS IN THE INSTITUTE LIBRARY.



A CORNER OF THE INSTITUTE LIBRARY, SHOWING SIR L. ALMA-TADEMA'S PICTURES ON THE BOOKCASES.



9, CONDUIT STREET, LONDON, W., 30th June 1906.

CHRONICLE.

The Royal Gold Medallist and his Pictures.

The Royal Gold Medal Presentation, always an interesting event, was, needless to say, exceptionally interesting and pleasing in the case of Sir Lawrence Alma-Tadema last Monday. The occasion has a parallel in the similar function of twelve years ago, when the Medal was conferred upon another distinguished painter-Academician, the late President of the Royal Academy, Lord Leighton, the ground of the award in his case being principally his brilliant lectures on the various Continental Schools of Mediæval Architecture. Another parallel to Lord Leighton is the equally charming personality of the present year's Medallist, which has won for him the affection of all who have the privilege of knowing him, and which contributed in no little degree to the popularity of the Council's selection. The portrait which accompanies the present number Sir Lawrence specially sat for only a few days ago. Most people will find it difficult to realise that its subject publicly exhibited his first picture over fifty-five years ago.

The presentation was witnessed by a large assembly of members and their friends, the senior rank of the Royal Academy being especially well represented. Of Past-Presidents, Sir Wm. Emerson and Sir Aston Webb, R.A., were present, together with the President-elect, Mr. Thomas E. Collcutt.

By the kindness of Sir Lawrence the meeting was treated to an exhibition of engravings and photographic reproductions of a hundred or so of his pictures hung under Sir Lawrence's own direction. The accompanying photographs [pp. 442-443] of portions of the Library show some of the pictures hanging on the book-cases. A noticeable feature of the collection, to which the President directed special attention, was the large proportion of architecture to be seen in the composition of almost every subject. At the President's request, before the Meeting separated, Sir Lawrence entered into a slight description of a few of the pictures, and gave some interesting reminiscences connected with his work.

Sir L. Alma-Tadema, in the course of his remarks, said that painters had a great advantage

over architects, for he did not think their clients would ever allow them to build a house twice over. In the collection on the walls the same theme might be seen repeated sometimes twice and three times. Take, for instance, the picture "The Education of the Children of Clovis"—his first success in 1861 at Antwerp. Hanging above the reproduction of the first version was one of the picture painted after he had been to Italy and studied the early Christian churches there.—Speaking of the seats represented in his pictures, and alluding to their infinite variety, Sir Lawrence said he had often been reproached for painting a woman and a man sitting on a seat. The seat, however, was a necessity—it was the architectural feature of the picture. Architects would understand what he meant—for instance, columns were columns; but they would not like to build always the same kind of column. It was likewise with the individuality of seats. When living in Brussels he used to receive his artist friends every other Thursday to talk Art. They often chaffed him about his archaeological art, and on one occasion defied him to paint a Roman picture gallery. This put him on his metal, and he painted one. Then his picture-dealer commissioned him to paint a shop of sculpture. The original was sold the other day in New York. In 1870 his picture-dealer retired and wanted him to paint, for his private collection, a life-size version of both those pictures, reproductions of which in photography were on the walls that evening. It had never been his wish to play the parrot and to say the same thing over and over again. As the picture-dealer wanted to publish the pictures, several things which, according to the painter's notion, were not adapted to black and white, he changed, and so made quite different pictures of the same subject. In that manner it was interesting to repeat oneself. He painted, for instance, the picture of the Pretorians finding Claudius and proclaiming him Emperor after having killed Caligula. In the first picture the Pretorians were good, but the poor Emperor looked like a bundle of clothes rolling out of the cupboard, and it did not please him at all. Then he painted the second one, which went by the name of "The Roman Emperor," and was in the Royal Academy in 1871. That was much better, but he had lost the importance of the Pretorians. Therefore he painted a third version with the Pretorians of the first and the scene of the event rendered more imposing, only the tragic impression was not so great as in picture No. 2. He thought architects were after all to be congratulated that they need not do a thing over again when once they had done it in one way. A painter worked himself out, and when he had finished work on which he had been employed for a long time he forgot what had actually stirred him in the beginning, and felt no longer attracted in the same way by the subject; he had seen in the meantime other things, and he wanted always to improve on

what he had done. If one was an artist, one's aim was always to exceed the first effort.—Among other pictures commented upon more or less in detail, Sir Lawrence referred to his early Egyptian pictures. He had never seen Egypt, he said, at the time of painting them. He had had an opportunity to go, but was afraid he would see little of the country from the number of Turks and Arabs there, so he remained at home. Why he wanted to study Egypt was because in his student days at Antwerp he was much with the Germans, and it was the time of the Grimms, the revival of the study of the Nibelungs, the digging of the Frankish graves, the forming of the Mayence Museum, &c. He was full of it all. But there was a gap between Rome and the Middle Ages which was difficult to fill up, and in order to fill it up he thought he had better go back to the Egyptians and start at the beginning. Hence it was that he painted his Egyptians, continuing through them to Greece and Rome. There was on the walls a reproduction of the picture "How they amused themselves in Egypt 3,000 years ago." The original was partly destroyed in the explosion in 1866. They would also see on the walls the picture of "Venantius Fortunatus." Venantius Fortunatus was one of the last of the Roman poets, and was particularly fond of a good dinner. Queen Radegonda, a Saxon princess, had been forced to marry Clothar, the Frankish king. She grew so sick of Court life that she retired and built herself a convent at Poitiers. Fortunatus became her religious adviser, and to pay him for his counsels she would cook for him the nicest dinners she and Agnes the abbess could devise, and he would read poems upon the dinners.—Speaking of returns of compliments, Sir Lawrence recalled that he once sent to Munich a picture called "The Question"—a girl sitting on a seat and a youth pulling her sleeve, a streak of blue sea running all along the picture. The scene struck George Elbers so much that he wrote a story upon it, calling it "The Question." He (Sir Lawrence) was so pleased with the book that he painted a picture upon it, "Xanthé and Phron," of which a photograph might be seen on the walls.—There was nothing so beautiful in life, Sir Lawrence concluded, as the mutual rubbing up of one's thoughts and one's feelings against one's fellow artists. He would not like to live in the country. Not that he did not love it, but he loved much more to meet his friends and have a little chat about each other's mistakes and that kind of thing. Architects, he thought, could not make such charming buildings if they hadn't their friends rubbing them up sometimes. Such criticism was a most valuable spur and aid to an artist in his work.

Vote of Thanks to the Retiring President.

The Presentation of the Royal Gold Medal is practically the concluding function of the Session, and in the ordinary course of things with the

present-month Mr. Belcher's term as President would have expired. By special resolution of the Institute however, in the interests of the International Congress next month, Mr. Belcher, with the present Council, is to retain office until the Congress is over. Advantage was taken of the Institute gathering last Monday, to express to Mr. Belcher the appreciation and thanks of the General Body for the incalculable services he has rendered the Institute and for his sagacious conduct of its affairs during his Presidency. The following is a note of the remarks on the occasion:—

SIR ASTON WEBB, R.A., *Past-President*: Mr. President, Ladies and Gentlemen,—It was not until I came here this evening that I knew the honour that was to be put on me of proposing a vote of thanks to our President for the two years of office he has served so well. Perhaps, it is well that I did not know before, because if I had had time to think of it I should have kept you here far longer probably than you would have wished. One other difficulty I have is that Mr. Belcher is present, and we Englishmen are not in the habit of saying before a man all the pleasant things we think and feel about him. We have been very proud of Mr. Belcher as our President—proud of him also as an architect, and proud of him as a man. As President we feel that he has guided our affairs with discretion. It has required some discretion, as I am sure you know, to pilot us safely through these last two years. He has guided us in such a way that he has made all the members of the Institute friends, and therefore he cannot have made an enemy. As an architect we honour him for his work, and, if I may say so, for the individuality which is shown in his work. He has worked on traditional lines, but in all his buildings the individual character of the architect himself is visible from beginning to end. That is the character we look for in all good work, and that is the main character I feel you would like me to emphasise in our President. As a man I would not venture to say much of him, for he is my friend. He has always been faithful and just to me, and I know he has been faithful and just to everyone with whom he has had dealings. What more can be said about a friend? But I would ask you, ladies and gentlemen, to record this vote of thanks with the greatest enthusiasm, which I know you all feel, to Mr. John Belcher, our President, for the arduous two years he has served. It is a pleasure to us all to find that he is quite well and fit again after his illness, and ready to carry on that most arduous undertaking of entertaining something like two thousand foreigners and Englishmen who we hope to see next month at the Congress.

MR. JOHN SLATER [F.]: Ladies and Gentlemen,—No words are necessary from me to supplement the remarks of Sir Aston Webb in proposing the vote of thanks to our President, Mr. Belcher; but, as I am, I am sorry to say, almost the oldest member of the Council, I should like to second the

vote of thanks and express my own appreciation and the appreciation of all the members of the Council for the tact and urbanity he has unfailingly shown in presiding over our deliberations. We must not forget one of the greatest services Mr. Belcher has rendered the Institute in bringing back within its ranks a large number of the architects whom we were always very regretful to have parted with, and whom we welcome here with open arms again. That is one of the greatest services Mr. Belcher has done. I have much pleasure in seconding the vote of thanks proposed by Sir Aston Webb.

THE PRESIDENT: Ladies and Gentlemen,—I assure you I have been taken completely by surprise, for I was under the impression that I had not yet completed my work. However, I am not being dismissed; and I may say that I am very much touched by this vote of thanks, and grateful to Sir Aston Webb for all the kind things he has said about me. I fancy I do not deserve them all, but I can only claim to have done my best during my two years of office. I remember Sir Aston's suggestion two years ago that possibly I might take the Chair, after he had been filling it so worthily, and he assured me he had had a very pleasant time as President. I confess I heard this with surprise, and it was with great fear and trembling that I accepted. I am bound to say, however, that I also have had a very pleasant time, and enjoyed myself very much. This, however, is owing more to your good nature and your constant support, especially the members of the Council, and the way in which our worthy Secretary has always helped, and the staff generally. I have had no difficulties: everybody has been most kind and lenient towards me. I can only thank you very sincerely, and I beg of you to continue your support during the remainder of my term of office, which, as you know, has been extended until the end of the Congress. I shall need all your help. I hope the attendances will be constant and good at all the meetings, and that you will do your utmost to make the visit of our brethren from abroad very delightful to them, so that they may carry back pleasant memories of their sojourn amongst us.

SEVENTH INTERNATIONAL CONGRESS OF ARCHITECTS, LONDON 1906.

Important Notice.

In order to minimise the unavoidable crush at the counters at the Grafton Galleries on the morning of Monday, 16th July, British members are most earnestly urged to obtain their visit tickets previously by post, or, if possible, to postpone application at the counters till the Tuesday morning.

Badges will be obtainable on the Monday and following days at the Grafton Galleries, or during

the previous week by personal application at the Institute.

Abstracts of the Papers to be read at the Congress, printed in English and French, will be issued to members of the Congress in the course of a few days.

List of Colonial and Foreign Members.

It is thought that home members of the Congress will be interested to know the names of colonial and foreign members who are attending the Congress. The following is a complete list to date:—

AUSTRALIA.—F. W. Burwell, Mrs. Burwell, Albert S. Conrad, Christopher A. Cowper, J. Talbot Hobbs, Mrs. Hobbs, Sydney Jackman.

AUSTRIA.—Hermann Helmer, Marcell Kaminerer, Frau Kaminerer, Friedrich Kleibl, Frau Paula Kleibl, Hans Peschl, F. E. von Schaumann-Fürstenburg, Fräulein Marie Süss, Otto Wagner, Frau Wagner, Alexander Wiedemanns.

BELGIUM.—Ernest Acker, Emile Anciaux, Joachim Benoit, Mme. Benoit, Henri Blomme, Leonard Blomme, Michel de Bracy, Charles Buis, Jean-Joseph Caluwaerts, Mme. Caluwaerts, Louis Cloquet, Mme. Cloquet, Paul Comblen, Prof. Adolphe Crespin, Mme. Crespin, William Defontaine, Mme. Defontaine, Adrien Delpy, Mme. Delpy, Modeste Denoyette, Mlle. Detournay, Franz de Vestel, Mme. de Vestel, Emilie de Vreux, Mlle. Emilie de Vreux, M. de Vroye, Alexis Dumont, Dr. Edouard Gaspar, Eugène Goefs, Gustave Ghysels, J. Goeschalk, Pierre de Groef, J. Hubert, Marcel Jaspar, Paul Jaspar, Mme. Anna Jaspar, Mlle. Jeanne Jaspar, Gustave de Keersmaeker, Mme. G. M. de Lacotte, Louis van Langendonck, Jules Latière, Paul le Clerc, J. van Mansfeld, Gustave Maukels, Armand Piron, Léopold Piron, Ernest Puchot, Jean Roschaert, Mme. Roschaert, Prof. Paul Saintenoy, Oscar Simon, Mme. Simon, Arthur Snyers, Prof. Ch. Soubre, Franz Standt, Fernand Symons, Charles Thirion, Carlo Thirion fils, Léon Tardou, Mlle. Juliette Toussaint, H. Vaes, Prof. T. Van Dyck, Prof. Cyril Van Houtte, Mlle. Julia Van Houtte, Joseph Vanvarenbergh, Maurice Van Ysendyck.

CANADA.—John S. Archibald, Mrs. Archibald, Francis Spence Baker, Alcide Chausé, Miss G. Graham.

DENMARK.—E. V. Dahlerup, Mme. Dahlerup, Poul Holsøe, Mlle. Louise Kletz, Mlle. Marie Koch, Aage Mathiesen, C. T. Novi, Martin Nyrop, Mme. Nyrop, Mlle. E. Nyrop, Hans Wright, Mme. Wright.

FINLAND.—Birger Brunila, Lambert Pettersson, Alarik Axel Tavaastjerna, Mlle. Agda Ståhlström, Gustaf Strengell.

FRANCE.—Georges Antoine, C. Arnaud, Albert Baert, Mme. Baert, Paul Barria, Mme. Ernest Barria, Mlle. Barria, Charles Victor Bartaumieux, Julien Bayard, Jean Bayard, André Berard, Mme. Berard, Charles Bernier, Mme. Bernier, Paul Henri Bertin, Jean Alfred Beunard, Louis Adrien Blanc, Mme. Blanc, Prosper Etienne Bohin, Prof. Eugene Bourdon, Joseph Bougolin, Paul Brion, J. E. Brizon, Mlle. Elise Brizon, Louis Brizon, G. Chastel, Mme. Jeanne Chauvet, François Clermont, Mme. Clermont, Mlle. Clermont, F. Constant-Bernard, Edouard Dailly, Charles Danne, Honoré Daumet, Mme. Daumet, Georges Daumet, Léon Louis Davoust, Georges Debré, H. A. A. Deglane, Mme. Deglane, S. Demerlé, Charles Deperne, Gilles Deperrière, Mme. Deperrière, Georges Descrières, Alphonse Dubuisson, Mlle. Marguerite Dubuisson, Mlle. Madeleine Dubuisson, Louis Ducastel, Mlle. Frédérique Dujardin, René Dupard, Ch. Duval, Paul Farochon, H. Fernoux, Georges Flageul, Mme. Flageul, Paul Gasse, Mme. Gasse, Paul Louis Gaté, Mme. Gaté, Léopold George, Jules Giboz, Mme. Giboz, Etienne Goblet, E. Gonse, Alphonse Jules Gontier, P. Gottereau, Paul Guadet, J. Guadet, Eugène Henard, Mme. Jules Henner, Emile Hess, Emile Jandelle, Mme. Jandelle, Ernest Jantz,

Albert Jasson, Daniel Joly, Mme. Joly, Georges Lafont, A. Lecavelé, Mme. Lecavelé, Victor Auguste Le Poll, Mme. Le Poll, Eugène Legrain, Henri Lenoble, Mlle. Mary Leroyer, Emile Louis Longfils, A. L. A. Marcel, Mme. Marcel, A. Marchand, Mme. Marchand, Eugène Alfred Marie, Henri Mayeux, Costerousse Méguelle, Mme. Méguelle, Aron Messiah, Victor Mollet, Mme. Mollet, Constant Moyaux, F. Nanteuille, Edouard Navarro, Mme. Navarro, Didier Navarro, Henri Paul Nénot, Mlle. Antoinette Nénot, Mlle. Geneviève Nénot, Alfred Newnham, Charles Nizet, Gaston Parent, Mme. Parent, Félix Paumier, Mme. Pfeiffer-Depré, E. J. Plat, J. M. Poupinel, Mlle. Jeanne Poupinel, Charles Procop, Mme. Quentin, Adolphe Augustin Rey, Mme. Rey, Victor Rich, Albert Richard, Pierre Richard, Jules Rivière, Germain Roth, Mme. Roth, Lucien Roy, Mme. Roy, Gaston Rozet, Germain Salard, Mme. Salard, Jean Sandret, Mme. Sandret, Mlle. Jeanne Sandret, Lionel Sargant, Mlle. Bertha Schaeffer, Paul Simon, Société Centrale des Architectes Français, Société des Architectes diplômés par le Gouvernement, Antoine Soudée, Louis Sortais, Victor François Adrien Tondou, Gaston Trélat, Marquis de Vogüe, Charles Wallon, Mme. Wallon.

GERMANY.—Architekten Verein of Berlin, Prof. Hugo Behr, Max Berg, Frau Berg, H. Berlepsch-Valendiaer, R. Brachmann, Frau Brachmann, C. J. Bühring, A. Bückner, Fraulein Claussen, B. Ebbardt, Robert Elksch, Emil Faesch, Theodor Ferber, Alfred Frühwirth, Carl Gause, Frau Gause, Carl Gensen, Fräulein Martha Gerhardt, Hans Gessner, Baron Henry von Geymüller, Theodor Goetze, Julius Habicht, Julius Hagedorn, Frau Hagedorn, Christoph Hehl, Fräulein Hehl, Johannes Hehl, Alfred Hensen, Fräulein Maria Hensen, Dr. Ludwig Hercher, Frau Hercher, Albert Hofmann, Adolf Hopfner, Paul Hüher, G. Anton Karch, Dr. Robert Karch, Fritz Körte, Franz Krah, Carl Lange, Prof. Wilhelm Manchof, Frau Manchof, Carl Müller, Frau Müller, Fräulein E. Müller, Dr. Ing. Hermann Muthesius, Ludwig Naher, Hugo Pieper, Johannes Radke, Carl Rehmann, Friedrich Reinhold, Moritz Riesebrodt, Eugen Rueff, Julius Rueff, Frau Julius Rueff, Friedrich Ruppel, Wilhelm Schleicher, Bruno Schulze, Paul Schuppau, Frau Schuppau, Helmuth Schuster, Frau Schuster, Curt Schwartz, Frau Schwartz, Friedrich Schwenke, Eduard Siedler, Dr. Ing. J. Strüben, Otto Sturm, George Sussen-guth, Carl Verlohr, Friedrich Völcker.

HOLLAND.—Gerrit van Arkel, Edouard Cuypers, Dr. P. J. H. Cuypers, J. T. J. Cuypers, C. N. van Goor, J. H. W. Leliman, Mlle. Jeanne Povel, C. T. J. Louis Rieber, J. Roosing, jun., J. A. Royer, A. G. Bzn. Salm, J. P. Wzn. Stok, J. A. Van Straten, jun., Jan Stuyt, P. A. Weeldenburg, A. William Weissmann, Mme. Weissmann.

HUNGARY.—Alexander de Aigner, Mme. de Aigner, Ferencz Bartok, Imre Benes, Vilmos Fothl, Imre Francsek, Béla Kaksz, Mme. Lenke Kommer, Mme. Paula Kommer, Mme. Irma Kommer, Jozsef Kommer, B. Krisztenlovich, Elizabeth Nagy, Virgil Nagy, John Pauer, Olivier Podhradsky, Gyula Sandy, Frau Paulin Sandy, Jozsef Steiner, Imre Tandler, J. de Törley, Herman Ernest Tschauke.

INDIA.—William Banks Gwyther.

ITALY.—Ing. Lorenzo Allievi, Rodolfo Baldi, Mme. Baldi, Arturo Baldini, Mme. Baldini, Giulio Cesare Baravelli, Cav. Cesare Barontini, Mme. Barontini, Mariano Eduardo Cannizzaro, Collegio Toscano degli Ingegneri e Architetti, Cav. Costantino Cellucci, Filippo Galassi, Giulio Magni, Commendatore Giovanni Pini, Mme. Pini, Cav. Pasquale Rapisarda-Rizzo, P. Reme Pleci, Roberto Riem, Giorgio Rinaldi, President of the Società degli Ingegneri ed Architetti, Cav. Luigi Timaschi.

JAPAN.—S. Chujo.

POLAND.—Thaddeus Szanior.

PORTUGAL.—P. E. P. Barbosa, Mme. Barbosa, A. R. Adães Bermudes, Mme. Bermudes, A. M. Costa Campos, A. P. D. Guimarães, João Lino de Carvalho, Prof. J. C. d'A. G. Lopes, José Teixeira Lopes, Mme. Lopes, Prof. Teixeira Lopes, Francisco Carlos Parente, Arthur Manoel Rato,

Frederico Augusto Ribeiro, José Velloso Salgado, Mme. Salgado, Alexander Y. Smart, José Alexandre Soares, Ventura Terra, Mme. Terra.

RUSSIA.—R. Böker, Count Paul Suzor, Prof. N. Tshijol. SOUTH AFRICA.—E. J. Bridges, G. St. John Cottrill, J. D. Clacko, Hubert S. East, Frederick G. Green, Mrs. F. G. Green, Thomas Henry Hitchin, William Lucas, Davidge Pitts, Arthur Henry Reid, Walter Reid, Mrs. Reid, Thomas Arthur Shaddin, Ernest Willmott Sloper, Transvaal Institute of Architects, Robert Walker, William White-Cooper, Mrs. White-Cooper.

SOUTH AMERICA.—Hernando Acosta y Lara, Domingo Carrique.

SPAIN.—Tomas G. Acebo y Retortillo, Anibal Alvarez y Amoroso, Pablo Aranda y Sanchez, Mme. Aranda, F. Arbo y Tremanti, J. Arroyo Barandiaran, Joaquin Bassegoda y Amigo, Ricardo de Bastida, Raimundo Beraza y Farraga, M. B. de Quintana, Cabanes y Rabasa, Luis M. Cabello y Lapiedra, F. P. de los Cobos, B. Corral y Montobbio, Luis Elizalde, Alfred de la Escalera y Amblard, Antonio Farrés y Aymerich, Enrique Fort, Ramon Balnes Frexo y Mallofic, Mauricio Jalvo Millan, Valentin P. Ramon Lavin Casalis, G. Pedro Mathet y Rodriguez, Juan Maymo y Cabanellas, Eduardo Mercader y Sacanella, Pelayo Miquelarena, Mme. Miquelarena, Salvador Oller y Padrol, Alberto de Palacio, Buenava Polles y Vivó, Enrique Repulles y Vargas, Valentin Roca y Carbonell, Mme. Roca, Joaquin Saldana y López, Mme. Saldana, Pablo Salvat Espasa, Benito Guitart Trulla, Francisco de Urcola, Joseph Urioste y Velada, Mme. Urioste, Mlle. Urioste, B. V. Bosen, Salvador Valeri y Paparull, Manuel Viga y March, José Vilaseca y Casanovas, Franco del Villar y Carmona, Jesús Yanguas y Santafé.

SWEDEN.—Magnus Dahlbänder, Mme. Dahlbänder, Rudolf S. Enblom, Mme. Enblom, Dagman Ericson, Sigfrid Ericson, Mme. Nils Frykholm, Alfred Hellerström, Wilhelm E. Klemming, I. Tengborn, Eugen Jacobi Thorburn, A. S. Thardin, Mme. Thardin, Gustave Wickman, Folke Zettervall, Mme. Zettervall.

SWITZERLAND.—Fritz Stehlin.

TAMMANY.—Alexander North, Miss North, Miss Adeline North.

UNITED STATES OF AMERICA.—Francis R. Allen, Mrs. Allen, Miss Dorothy Allen, George Mendenhall Anderson, Mrs. Lary Anderson, Mrs. William M. Anderson, Frank Conger Baldwin, Mrs. Baldwin, John M. Carrère, James B. Cook, Robert Campbell Dixon, jun., William S. Kames, William M. Ellicott, Charles S. Frost, E. P. Goodrich, William B. Itner, Mrs. Itner, James T. Kelley, Mrs. Kelley, Albert Kelsey, Mrs. Kelsey, Theodore Carl Link, Mrs. T. C. Link, Charles D. Maginnis, W. B. Mandle, T. Nolan, Wm. Churchill Noland, Wm. Barclay Parsons, Josias Pennington, Ernest John Russell, Charles Hercules Rutan, Miss Eleanor Rotan, Miss Elizabeth Rotan, John Downey Thomas, Mrs. J. D. Thomas, Morrison Huggins Yail, Charles Howard Walker, Mrs. C. H. Walker, C. A. Wallingford, Mrs. Wallingford, J. Foster Warner, Wm. Channing Whitney, Peter Bonnett Wight, B. F. Willis, John Devereux York.

Hygiene and Salubrity in Dwellings.

The Association for the Promotion of Hygiene and Salubrity in Dwellings will hold its 2nd International Congress in Geneva from the 4th to the 10th September next. The object of the Congress is to appeal to competent professional men of all countries—architects, doctors, and hygienists—to deliberate in common on the best means of ameliorating the salubrity of dwellings. The following is an extract from the Programme arranged for the meeting at Geneva:—

A. DWELLING-HOUSES.

*Section I. Houses in Cities (middle class).—*Subjects to be treated: (a) the housing of servants; (b) the danger of underground flats; (c) the housing of caretakers, cooks, &c.

Section II. Workmen's Dwellings.—(a) Their distribution in cities. (b) The means of insuring their wholesomeness and salubrity. (c) The rôle of public authorities and private action in the matter. (d) Discussion of the question of gardens and plots of ground for workmen's cottages.

Section III. Rural dwellings.—(a) The depopulation of country districts. (b) The housing of farmhouse servants and labourers (sedentary or nomadic). The necessity of studying this question as thoroughly as that of the housing of the working classes in cities. (c) The importance of spreading knowledge of the laws of health amongst the peasantry.

B. LODGINGS AND PLACES OF ASSEMBLY.

*Section IV. Furnished Lodgings and Hotels.—*A subject of great importance in countries visited by numerous tourists.

*Section V. Hospitals.—*Sanitary conditions necessary in hospitals, asylums, sanatoria. Special attention given to the means of insuring the disinfection of materials—sheets, linen, &c.—employed in hospitals, before they are sold or sent away.

*Section VI. Military Establishments.—*The present types of barracks; the general conditions they should fulfil in relation to climate and country.

*Section VII. Public Halls and Industrial Establishments.—*References to the hygienic situation and construction of theatres, concert rooms, lecture halls, law-courts, workshops, shops, factories, &c.

*Section VIII. School-houses.—*Vitiation of the air in public and private school-rooms and how to remedy it. *Swiss school-houses are models of hygiene in this respect and may be visited with benefit by foreign congressists.*

Papers on the typical school-house and boarding-schools will be read and discussed.

C. MOVABLE AND TEMPORARY DWELLINGS.

*Section IX. Means of Travel.—*Special papers on railway carriages, trains and steamers. If there are any on such subjects as the cleanliness of the streets, the clearing away of dirt, and the dust question, they will be included in this section.

D. ART AND DECORATION IN RELATION TO THE WHOLESOMENESS OF HOUSES.

*Section X. How to ameliorate the sanitary conditions of old quarters in town or city or of the monuments of the past while at the same time preserving their picturesque and artistic character.—*This heading speaks for itself, and responds to a question often raised in the minds of artists and hygienists. One may also trace the evolution of the decorative arts under the influence of hygienics.

E. SANITARY ADMINISTRATION.

*Section XI. Legislation, Sanitary Offices, Statistics.—*Sanitary certificates. Upon this Section, which will occupy itself with hygienic legislation, police regulations, sanitary offices, statistics, and sanitary certificates, will devolve the delicate task of procuring a sanction for the principles imposed by the other sections; of studying the legislative measures employed in different countries and cities for the purpose of enforcing on all the elementary laws of health; and of inquiring into what can best be done in cases where State intervention is called for.

Besides the sectional meetings, general meetings have been arranged for the discussion of the following subjects:—

(i.) The necessity and means of the transformation of unhealthy blocks of houses in cities.

(ii.) The application of sanitary legislation in the case of unhealthy dwellings.

(iii.) Hygienic systems of heating.

The Committee hope to organise an exhibition of models of houses, hygienic apparatus, plans, statistics, &c., and models of the most recent construction of railway carriages.

Various fêtes, receptions, and excursions are being arranged.

Included on the International Committee are Mr. John Belcher, A.R.A., *President R.I.B.A.*; Mr. T. E. Colclutt, *President Elect*; and Mr. Edwin T. Hall, *Vice-President*.

The President of the Congress is M. Guillaume Fatio, and the General Secretary, to whom all communications should be addressed, M. Albert Wuarin, 1, Rue des Moulins, Geneva.

Mr. Thomas Hardy on the Restoration of Churches.

At a recent meeting of the Society for the Protection of Ancient Buildings a Paper on the preservation of our old church buildings was read by Mr. Thomas Hardy, the eminent novelist, who, it will be remembered, started life as an architect, and won the Institute Silver Medal for an Essay in 1862.

Mr. Hardy, in the course of his Paper, observed that it might be true that our more intelligent architects now knew the better way, and that damage was limited largely to minor buildings and to obscure places. But, continue it did, despite the efforts of their Society; nor did it seem ever likely to stop till all tampering with chronicles in stone was forbidden by law, and all operations bearing on their repair permitted only under the eyes of properly qualified inspectors.

The difficulty which they encountered on the threshold in respect of church conservation was the fact that the building was held in two contradictory lights, and was required for two incompatible purposes. To the incumbent the church was a workshop or laboratory; to the antiquary it was a relic. To the parish it was a utility; to the outsider it was a luxury. How could they unite these incompatibles? The author went on to refer to wantonness in bodily pulling down an old church that a more stylish one might be erected, the shifting of old windows and other details irregularly spaced, and to "monumental puss-in-the-corner." *A propos* of this, he said that one would like to know if any note had been kept of the original position of Milton's monument in Cripplegate Church, which, he believed, had been moved more than once, and if the position of his rifled grave was now known. Continuing, Mr. Hardy, after dwelling upon the mistakes of builders and the abuses in the rehanging of bells, asked why the old sets of chimes had been removed from nearly all the country churches. The midnight

wayfarer, in passing along the sleeping village or town, was cheered by the outburst of a stumbling tune, which possessed the added charm of being heeded probably by no ear but his own. But one might go half across England and hear no chimes at midnight now.

Another abuse of ecclesiastical fabrics was that arising from the fixing of Christmas decorations. The battalion of young ladies to whom the decking with holly and ivy was usually entrusted seemed to be possessed with the fixed idea that nails might be driven, not only into old oak and into the joints of the masonry, but into the freestone itself, if one only hit hard enough. He lately found a fifteenth-century arch to have suffered more damage during the last twenty years from this cause than during the previous five hundred of its existence. Restoration was practically objectionable and well-nigh impossible, and, moreover, was fatal to human interest. Some might be of a different opinion; but he thought that the damage done to the sentiment of association by replacement, by the rupture of continuity, was mainly what made the enormous loss the country had sustained from its seventy years of church restoration so tragic and deplorable. The protection of an ancient edifice against renewal in fresh materials was, in fact, even more of a social—he might say humane—duty than an æsthetic one: it was the preservation of memories, history, fellowship, fraternities. By a curious irony, the parts of a church that had suffered the most complete obliteration were those of the closest personal relation. Their duty lay in organising resistance to the enthusiasm for newness of those priests and churchwardens who regarded a church as a sort of villa, to be made convenient and fashionable for the occupiers of the moment.

The A.A. Evening Continuation School.

The report which appeared in some of the building journals that the evening studio of the Architectural Association is to be closed is contradicted by Mr. H. Tanner, Jun., Hon. Secretary of the Association. This, he says, is by no means the case. The A.A. Council has for some time past had under consideration the advisability of amalgamating the evening studio (formerly conducted by Mr. W. G. B. Lewis) with the evening continuation school. With the two schools under separate heads there has been much overlapping, and from a financial as well as an educational point of view the new scheme, it is stated, will be advantageous to all students, as provision will be made, not only for students who have passed through the day school, but for those students who are engaged in offices during the daytime, as well as for those who wish to prepare for the Institute examinations, or are desirous of taking up separate subjects in design or construction. The new arrangement, Mr. Tanner explains, will provide

evening instruction which will supply the wants of all grades of students without disturbing the smooth working of the scheme of continuous study.

Proposed National Collection of Drawings of Architecture.

The proposal to form a National Collection of Drawings of Architecture, mention of which was made in the *JOURNAL* for 10th March, is beginning to assume practical shape, the authorities of the Victoria and Albert Museum having consented to house the collection in the Art Library at South Kensington. The idea, it will be remembered, owes its inception to the Spiers Testimonial Committee, and Mr. Spiers himself gave substantial support to the scheme by presenting the balance, amounting to £79, of his Testimonial Fund, in aid of the project. Professor W. R. Lethaby and Mr. R. W. Schultz have now issued a circular on behalf of the Committee, which runs as follows:—

Owing to the lack of any organised scheme for the collection of architectural drawings, numerous sets of measured drawings of old buildings, forming in themselves valuable historical records, have been lost or destroyed, and many others are practically inaccessible to students. Magnificent work has been done during the last fifty years by young architects and others, in making accurate drawings of old buildings, both at home and abroad, and, as many of these buildings have since been destroyed or materially altered, these drawings in some cases form the only record of their original design and arrangement.

It has long been felt that drawings of this nature should be carefully collected and housed for future reference, and the Committee charged with arranging a testimonial to Mr. Philip Spiers last year hoped to have been able to initiate such a scheme as part of the testimonial. This was found to be impracticable, but Mr. Spiers has since come forward, and, of his own free will, put aside the money balance of the testimonial as the nucleus of a fund for dealing with the matter, and he has invited a small committee to assist him in organising and arranging a scheme.

As it is felt that such a collection should be as freely accessible as possible to everyone, the authorities of the Victoria and Albert Museum at South Kensington were approached to ascertain if they would be willing to take over and house such a collection in their library under reasonable conditions. We are pleased to say that arrangements have now been completed, whereby the collection will be deposited in the Art Library at South Kensington, and any contributors of drawings will be recognised as donors conjointly with Mr. Spiers' Committee, and will be entitled to the donors' privileges of the museum. While the drawings will be accessible to students for purposes of study, and can be copied under this head, they will not be available

for publication by other than the author during his lifetime, without his permission.

The Committee feel sure that architects who possess such drawings only require to be made aware of the existence of a definite scheme for collecting and adequately housing the same, in order to present their drawings to the collection. In most cases such drawings, having served their original purpose, are rolled up and never looked at, being ultimately either lost, destroyed, or forgotten. The collection will not be confined to drawings of old work, but will include within its scope the following:—Records of important public buildings and of works by eminent architects down to the end of the nineteenth century; photographs of buildings which no longer exist, or which have been materially altered; and sketch-books of deceased architects of repute.

The Committee's address is 14, Gray's Inn Square.

REVIEWS.

LIVERPOOL STUDENTS' SKETCH-BOOK.

Portfolio of Measured Drawings, by Students of the School of Architecture, University of Liverpool. Price to subscribers 12s. 6d. a volume; to the general public 15s. net.

In a circular explaining this work Professor Reilly says that he is proposing to issue yearly, in folio form, somewhat similar to the Sketch-Book of the Architectural Association, a selection of measured drawings made by the students in the Liverpool School of Architecture. As these students are at most of three years' standing, and the majority but of two, it may not be possible to attain to the high standard of draughtsmanship achieved by the Association Sketch-Book.

No book of this precise kind, devoted to measured surveys of notable buildings, seems as yet to have been issued. In time, therefore, these volumes should form a very valuable record.

The first number of the publication contains a complete external survey of the following buildings, with detail drawings to a large scale: The Town Hall, Liverpool; the Customs House, Dublin; the Senate House, Cambridge; the Palace of the Petit Trianon, Versailles; the Palace of the Grand Trianon, Versailles; the Orangery, Kensington Palace.

The scheme proposed has been admirably carried out. The subjects have been well selected, the drawings are straightforward and clear, and the size of the volume is handy. It is, however, the scheme itself which calls for the greatest praise, and I hope that the success of the present volume will lead to its having many successors and imitators; above all imitators, for the proper publication of the results seems a necessary complement to the production of measured drawings of buildings. Amongst the many educational

subjects calling for consideration one of the most pressing seems to be as to the return that is made in service for the large aggregate sum of money which is yearly spent in architectural prizes and studentships. Putting aside for the time any question as to the principles which should govern students' designing-competitions, and considering only the one of encouraging the study of old work, I feel, and I know that others—probably many—feel, that there has been very great waste in the past—waste of effort and waste of results.* With all our travelling and measuring, the labour of scores of hands over seventy or eighty years, little has been systematically studied, nothing has been systematically recorded. Students, of necessarily little experience, in many cases go where they like, draw what they like, and do what they can with the sketches they bring back, treasuring them for a time, neglecting them after a time, and ultimately leaving them to be destroyed.

I will not here attempt to work out a view of what might be done by an organised plan and businesslike record, but I venture to say that we want something like a "Royal Commission" to make suggestions for rendering our educational endowments more productive.

W. R. LETHBRIDGE.

MINUTES. XVI.

At the Sixteenth General Meeting (Ordinary) of the Session 1905-06, held Monday, 25th June 1906, at 8.15 p.m.—Present: Mr. John Belcher, A.R.A., in the Chair; 52 Fellows (including 16 members of the Council), 32 Associates (including 1 member of the Council), 1 Hon. Fellow, 5 Hon. Associates, and numerous visitors: the Minutes of the Meeting held 11th June 1906 [p. 435] were taken as read and signed as correct.

The following Fellows, attending for the first time since their election, were formally admitted by the President—viz. Robert Shekleton Balfour, William Adam Forsyth, Charles Henry Löhr, Hugh Patrick Guérin Maule, Percy Robinson.

The Hon. Secretary formally announced the decease of Andrew Moseley and Philip Wilkinson, *Fellows* [see *JOURNAL* 16th June].

The President delivered an Address on the Presentation of the Royal Gold Medal, the gift of His Majesty the King, to Sir Lawrence Alma-Tadema, O.M., R.A. [*H.F.*]; and Sir Lawrence, having been duly invested with the Medal, replied in acknowledgment of the honour.

Sir Lawrence further addressed the Meeting on the subject of the collection of photographs and engravings of his pictures which he had kindly lent for exhibition on the occasion.

On the motion of Sir Aston Webb, R.A., *Past President*, seconded by Mr. John Slater [*F.*], the thanks of the Institute were voted by acclamation to the outgoing President for his conduct of the affairs of the Institute during his occupancy of the Chair.

The President having briefly replied, the proceedings closed, and the Meeting separated at 9.30.

* This reads like a complaint, but that is not my intention: I mean my own waste of early study amongst the rest.



EXCELLENCE IN ARCHITECTURE.

ROYAL ACADEMY LECTURES, 1905.

By Professor AITCHISON, R.A.,

PAST PRESIDENT R.I.B.A., ROYAL GOLD MEDALLIST.

THE importance of architecture to a nation is commonly overlooked; but that it should be overlooked is astounding, for to a person visiting a country new to him recent buildings alone show how great the country then is, and old buildings show the greatness that it once reached.

The privilege of the visual fine arts is to present a lesson to everyone that can be understood without study. Painting and sculpture preserve the appearance of the beauty, the vigour, the intelligence and determination of the people, as far as these can be shown by form and colour; but architecture alone shows the nation's wealth and pretensions.

In the case of buildings on high ground not built by slave labour each stone has probably cost its weight in gold, and the impressive or elegant appearance of public buildings presupposes a nation that contains, or has contained, men of great mental and imaginative powers; and when sublimity has been reached in the monuments all cultivated beholders admire and even envy them. The highest snow-capped mountains, the widest and swiftest rivers, the loftiest cataracts, the deepest ravines, the greatest stretch of plain, the vastest and deepest forests, nay even the most appalling volcanic eruption or devastating flood, only speak to us of the powers of nature, while buildings are essentially the work of man. Even the hypæthral temple of Stonehenge gives us a lofty idea of what so feeble a creature as man can do, even in a savage state, when fired by a great motive; what, then, are our feelings when we meet with the works of the most distinguished race this earth has yet seen—the Greek—which arrived, in architecture at least, the nearest to perfection, while the Acropolis of Athens is an ideal site? Mighty masses of marble have been got up the hill of the Acropolis, and been put together as M. Beulé says "like a piece of cabinet work," and endowed with a perfection of form that has been the despair of all subsequent ages. Most architectural students when they have first appreciated the exquisite beauty and simplicity of the Grecian Doric have said, like St. Augustine, "Cursed be those who say our good before us," and think that if the Greeks had not invented the Doric, "I should have done so," deceived by its great simplicity to think it easy, while the envious and

blockheads tell us it is a copy from Beni Hassan. The woodcut in Fergusson gives an idea which the Greek architect may have taken a hint from, and by his art has rendered it unique. With so splendid a site as the Acropolis, we can hardly wonder at the admiration it has excited; but it is not till we are there that we can see the perfection of its architecture.

Even now in its ruined state the Ionic columns of the portico of the Erechtheum are some of the most beautiful things I have ever seen, while the whole plain flank of the Erechtheum blazing in the sunshine and contrasting with the projecting and shaded small caryatid temple at the end produces one of those effects that are rarely seen and can never be forgotten. The only thing that the Romans ever built that can in any way compare with this Greek work at Athens is the interior of the Pantheon, believed to have been built for Hadrian by Apollodorus of Damascus, whom Hadrian is supposed to have had poisoned for jeering him about his design for the Temple of Venus and Rome.

I think if any of the students will ask themselves what they first did in going to a foreign capital, they will say it was to look at the architectural monuments, and I think this is not confined to architectural students, but is common to almost every visitor, whether he speak the language or no. Every person on his first visit to a country wants to see signs of its greatness, and this greatness is usually shown in its capital by the splendour of its temples, palaces, and public buildings. On my first visit to Spain I travelled through from Paris to Madrid, but nothing in the shape of buildings impressed me there, and it was not till I saw the splendid Cathedral of Toledo with its walls draped with the fetters of prisoners escaped from their Arabic and Moorish masters that the former greatness of Spain burst upon me. At Cordova Abd-el-Rahman's great mosque is one of the most astonishing buildings in the world, astonishing not only from its vastness, but for its oddness, as it is made up of pieces of architecture torn from the churches then existing. It was at the opening of this mosque that Abd-el-Rahman, the last of the Omniades, boasted of the superiority of the Moslem faith over Christianity, and prophesied that Christianity would soon be swallowed up by Islam!

Farther on one got to Seville and saw its magnificent cathedral, one of the grandest cathedrals in the world, with the Giralda close by inhabited by flocks of screaming hawks, and the fine plateresque buildings in the town, so called from their being worked like gold or silver plate. After this my next visit was to the Alhambra, that splendid ruin of Arabic and Moorish magnificence in one of the most enchanting positions in the world, where the perfumes of the orange and lemon blossom and the oriental jasmine are wafted by the cool breezes of the Sierra Nevada through the unglazed windows of the Toccador of Lindaraxa. This boudoir of the Sultana is bordered with black tiles wonderfully inlaid with verses from the Koran cut out of white tile.

To pass over the education that the execution of fine masonry and carving gives to shoals of men. Even a great tomb may not only hand down the name of the dead but become a generic word and preserve the name of the person who caused it to be built as well. When Mausolus died and his widow had his splendid tomb built, it gave the generic name of "mausoleum" to all such buildings, and preserved the name of his wife Artemisia who had it built. I may safely say that every lad and lass in Scotland knows her name, but that is owing to the great poet Burns:—

"One Queen Artemisia, as old stories tell,
When depriv'd of her husband she loved so well,
In respect for the love and affection he'd shown her,
She reduc'd him to dust and she drank up the powder."

Martial attributes the Colosseum to Domitian, although usually attributed to Titus :—

" Nor let the Carian town exalt so high
Its mausoleum, hanging in the sky ;
In Cesar's amphitheatre are shown
Those rival glories all combined in one."

Lorenzo de' Medici, called the Magnificent (born 1448, died 1492), had a large collection of antique figures and other sculpture and antiquities which were disposed in favourable places in his garden, and being a man of acute mind, somewhat of a poet and dilettante, he is said to have observed that the Tuscan sculptors were not so good as the Tuscan painters, and after getting Bertoldo di Giovanni, Donatello's head man, to supervise the antiques in his garden opened it to young artists for study, and offered prizes for the best studies, Bertoldo supervising the students' work and giving them advice. Lorenzo de' Medici also had a great collection of engraved gems in his house. Lorenzo applied to the Ghirlandajos to send their two best pupils to his academy, and they sent him Michelangelo and Francesco Granacci. Lorenzo was so much struck by the intelligence of Michelangelo that he put him up in his palace, and he dined there every day with all the poets, philosophers, and other great men that dined there. Here it is said he made the acquaintance of Savonarola.

It has been often said that if we had another Mæcenæ and another Augustus we should not want new Vergils and Horaces. Whether this be true or not I cannot say, but I can say that if the English people had been as insensible to poetry as they are to architecture, we should never have had a Tennyson, a Swinburne, or the Brownings.

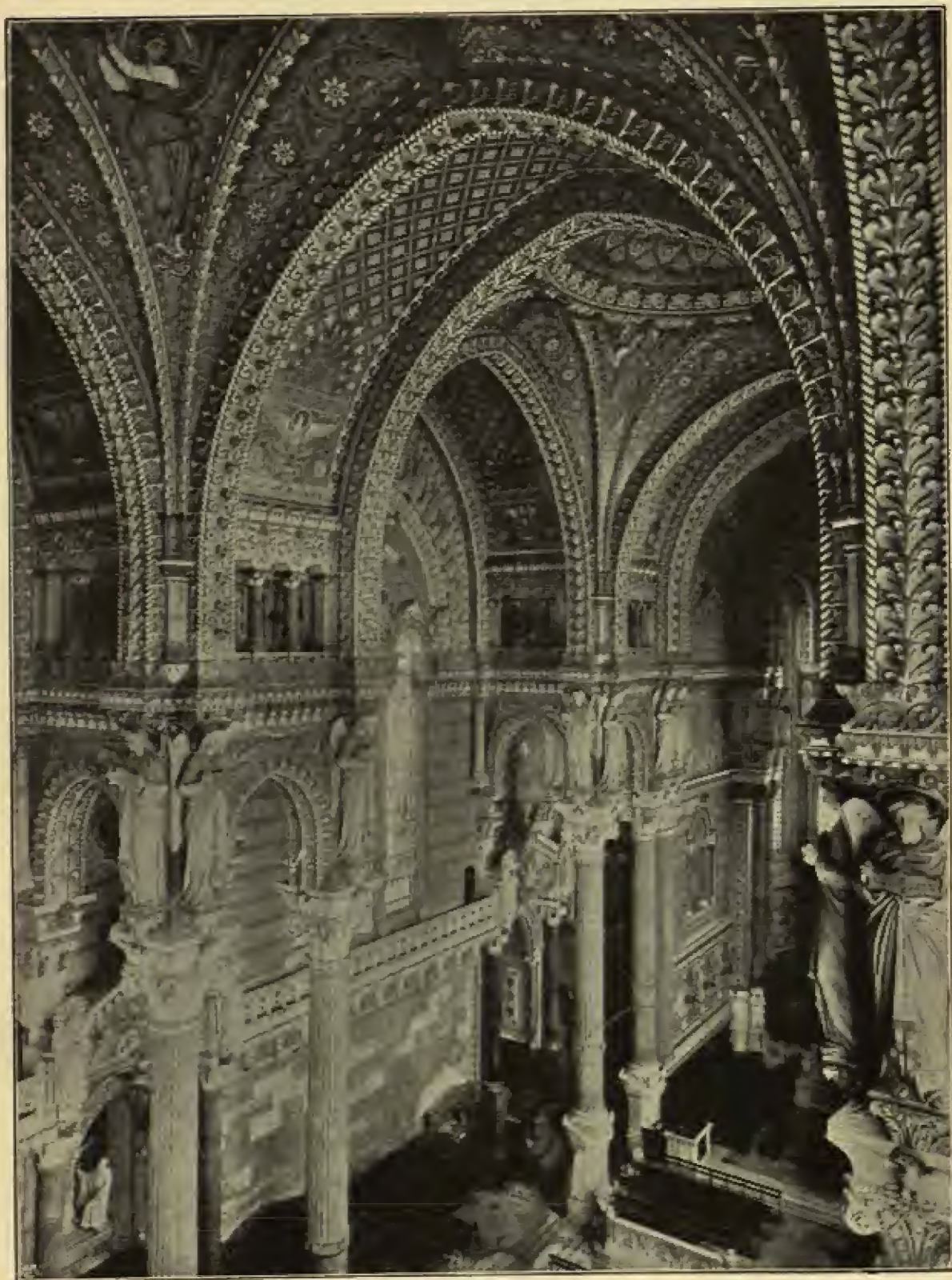
There has been a good deal of modern Gothic building, but it strikes our eyes as the conversation of people who confined themselves to the language of Piers Ploughman and Chaucer ; but in France there has been an advance, as we see in the basilique of Notre Dame de Fourvières from the designs of M. Bossan, carried out by M. Sainte-Marie Perrin. I saw the basilica a great many years ago, and it was striking and original, and with the suavity of



ALHAMBRA, GRANADA : CAPITAL.



NOTRE-DAME DE FOURVIÈRE, LYONS. WEST FRONT.



NOTRE-DAME DE FOURVIÈRE, LYONS. FROM THE CLAUSTRUM.

good modern work. M. Sainte-Marie Perrin has been amiable enough to send me the photographs of it which I reproduce here.

I wish to impress on people's minds that because a youth has wit enough to learn to shoe a horse or patch a kettle, it does not follow that he can be taught to become a divine poet or a divine architect.



NOTRE-DAME DE FOURVIERES, LYONS.



Photo by A. A. Inglis, Edinburgh.
 HOLYROOD PALACE: NORTH-WEST TOWER (SHOWING RECESSES FOR SCULPTURED PANELS).

WHAT H.M. OFFICE OF WORKS IS DOING FOR HISTORICAL BUILDINGS IN SCOTLAND.

By W. T. OLDRIVE, F.S.L., F.S.A.Scot.

PRINCIPAL ARCHITECT FOR SCOTLAND TO H.M. OFFICE OF WORKS.

Read before the Edinburgh Architectural Association, 17th January 1906.

THE object of this Paper is to afford the architectural profession and the public an opportunity of knowing what is being done with reference to the national historical buildings of which the Government Department I represent has charge. It is, I venture to think, neither right nor wise on the part of an official of the public service to avoid reasonable public inquiry into work carried on for the general good; and I am glad to have this opportunity of affording such information as I am able to give with reference to a subject which forms no inconsiderable part of my official duties, and which is a most interesting and pleasant personal study.

The scope of my Paper is to be limited to a simple explanation of what the standing of our Department is in relation to these historic buildings and remains, an enumeration of them, and a few remarks upon what we have been doing lately, with some illustrations. I shall endeavour to avoid questions of historical or architectural criticism, not because these

would be of little interest, but as lying outside the scope and intention of the Paper. I feel also that I should be unqualified to lecture upon the subject from that standpoint until I had been able to devote much more time to personal research and inspection than I have hitherto been able to spare since taking charge of our Scottish Branch two years ago.

It may be well at the commencement shortly to define the sense in which the term "Historical Buildings" is intended to be used: Only those buildings will be referred to which are of national and architectural character, and which are, in some sense, under the control of His Majesty's Office of Works. Such buildings may well be considered as national treasures for which a Government should be held responsible, such responsibility being that of a trust which ought not to be avoided or abused. It appears as though in all civilised countries there were a general awakening to such national responsibility, and within the last few days I have observed with pleasure that one of the subjects for discussion at the International Congress of Architects to be held in London in July next is that of the responsibilities of a Government in the conservation of national monuments. The neglect of such national treasures is analogous to the neglect of a family estate by a profligate peer, whose conduct would be universally condemned did he allow the family mansions and estates to fall into decay without thought or care for those who would succeed him. All architects and antiquarians must be glad to see a growing interest on the part of the general public in this question, for only the enlightenment and improved artistic sense of the public can enable any Government to take efficient control and enforce the necessary provisions for the conservation of such buildings. I have only time to refer merely to the fact of recent legislative action in other European countries. Those interested will find that a great deal has been done within the last few years in France, Germany, Austria, Belgium, and Italy; and our learned member, Professor Baldwin Brown, has recently published a book upon "The Care of Ancient Monuments," which deals especially with the responsibility of Governments, and shows at length what has been done within recent years.

At the last International Congress of Architects, held at Madrid in 1904, a resolution was passed calling for the establishment of Associations for the Protection and Preservation of National Architectural Monuments in all countries, and it was suggested that such Associations should co-operate for mutual assistance. It was also suggested that a comprehensive Inventory of the architectural treasures of Europe should be made; and it would certainly seem that the preparation of such an Inventory is a necessary first step in the direction required. Almost every European country except our own is taking action in the preparation of these official Catalogues of National Monuments; and surely every possible means should be used to encourage similar action in this country.

Scotland is rich in historic remains of architectural monuments of the past, but the greater number of these are under no official cognisance and subject to no official control. It appears to me that the work of the National Art Survey of Scotland deserves special notice and recognition in this connection. I cannot imagine a more praiseworthy scheme than that of encouraging architectural students, under proper guidance, systematically to measure and sketch the more important architectural remains. If these are tabulated and published in due course they will be of immense value for reference when the official inventory is compiled.

The historic buildings and remains over which our Department has direct control may be classified under two heads:—

- (1) Buildings vested in the Department; and
- (2) Architectural and antiquarian remains of which the Commissioners of H.M. Works are custodians under the Ancient Monuments Acts. It is now, however, recognised that other

Government Departments which carry out building works refer to the Commissioners of H.M. Works cases which affect ancient buildings of an architectural character, as, for instance, the War Department with reference to Edinburgh Castle, Stirling Castle, &c.; and the Admiralty Department in the case of Rosyth Castle, a proposed restoration of which will presently be shown.

Those buildings which fall under the class of properties vested in the Department are of chief architectural interest, and with these I shall principally deal; but it may be of some interest to enumerate those archaeological remains of minor character, so called "Ancient Monuments" in Scotland, of which we are custodians. The list of such remains comprises:—

I.—ANCIENT MONUMENTS TO WHICH THE ANCIENT MONUMENTS PROTECTION ACT (1882) APPLIES, AND WHICH HAVE BEEN TAKEN IN CHARGE BY H.M. OFFICE OF WORKS.

	COUNTY.	PARISH.
The circular walled structures called "Edin's Hall," on Cockburn Law.	Berwickshire	Dons
The British forts, on the hills, called "The Black and White Catherthuns."	Forfarshire	Menmuir
The Pictish Towers at Glenelg.	Inverness	Glenelg
The Stones of Gallernish.	Ross	Uig
The Burgh of Cliekinnin.	Shetland	Sound
The Pictish Tower at Mousa in Shetland.	"	Dunrossness
The inscribed slab formerly standing on the roadside leading from Wigton to Whithorn, but now in Whithorn Priory.	Wigtonshire	Whithorn
Two stones, with incised crosses, on a mound in a field at Laggaugairn.	"	New Luce
The pillars at Kirkmadrine.	"	Stoneykirk

II.—ANCIENT MONUMENTS NOT INCLUDED IN THE SCHEDULE ANNEXED TO THE ANCIENT MONUMENTS PROTECTION ACT (1882), BUT WHICH HAVE SINCE BEEN TAKEN IN CHARGE BY H.M. OFFICE OF WORKS UNDER CL. 10 OF THAT ACT, BY ORDER IN COUNCIL.

	COUNTY.	PARISH.
Ancient Runic Cross at Ruthwell.	Dumfriesshire	Ruthwell
St. Ninian's Cave.	Wigtonshire	—
The Pictish Tower of Carloway.	Ross-shire	Carloway
Cup-marked rock of three standing stones, Drumtroddan.	Wigtonshire	Drumtroddan
The Moot Hill of Druchting.	"	Mochrum
Semicircular Earthwork, Barsalloch.	"	Mochrum
The Ancient Chapel of Whithorn.	"	Whithorn
Sculptured Stone at Eassie.	Forfarshire	Eassie
Roman Camp at Bispailn.	Wigtonshire	Near Whithorn
Standing stone at Blairbowie, known as the "Wren's Egg".	"	Glasserton
Sculptured stones in Dyce Churchyard.	Aberdeenshire	—
Sculptured stones at Whithorn Priory.	Wigtonshire	Whithorn

There are also the Ancient Monuments to which the Ancient Monuments Protection Act (1882) applies, but which have not yet been taken in charge by H.M. Office of Works, viz.:—

	COUNTY.	PARISH.
The Bass of Inverurie.	Aberdeenshire	Inverurie
The vitrified fort on the Hill of Noath.	"	Rhynie
The pillar and stone at Newton-in-the-Garioch.	"	Culsaundmon
The British Walled Settlement enclosing Huts at Harefaulds in Lauderdale.	Berwickshire	Lauder
The Dun of Dornadilla.	Sutherlandshire	Durness
The sculptured stone called Suenos Stone, near Forres.	Elgin	Rafford
The Cross slab, with inscription, in the Churchyard of St. Vigean.	Forfarshire	St. Vigean
A group of remains and pillars on a haugh at Clava on the banks of the Nairn.	Inverness	Croy and Dalross
The Cairns, with chambers and galleries partially dilapidated.	Kirkcubrightshire	Minnigaff
The Catstane, an inscribed pillar.	Lindithgow	Kirkliston
The Ring of Brogar, and other stone pillars, at Stennis in Orkney, and the neighbouring pillars.	Orkney	Firth and Stennis
The Chambered Mound of Maeshowe.	"	"

There are, I think, on the part of the public, rather hazy ideas as to the intention of the Government with reference to the working of the Ancient Monuments Acts, and it may be worth while here to state explicitly what is the official understanding. I will therefore quote a Memorandum on the Ancient Monuments Act (1882) as issued with the Act:—

The object of the Ancient Monuments Act is to preserve from wilful destruction or neglect, and from preventable decay, those ancient monuments which still remain to us, and of which the most important are scheduled in the Act. They consist for the most part of prehistoric remains, dolmens, ancient forts, and similar monuments. They do not include more recent historic and ecclesiastical ruins, such as castles, abbeys, or churches.

The Act endeavours to effect its object by the voluntary association of the owners of these monuments with the State. It is hoped that when the object and effect of the Act are explained to them, owners will be willing to avail themselves of it, and to place their monuments under its protection, with a view to their preservation for all time against the risks already referred to.

The Act is not compulsory. It does not propose to take any right or property of an owner of a monument against his will, or to expropriate such right on payment of compensation. It proceeds upon the principle that if no right or interest of the owners is really interfered with, they will be desirous of doing their best to place their monuments beyond the possibility of destruction.

Under the law as it stood before the passing of the Act there was no process by which the owner of a monument, however interesting from an archaeological or historical point of view it might be, could ensure its preservation. The owner might feel certain that so long as he himself should possess it no damage would accrue to it, but no process existed by which he could bind his successors so that the monument should not be destroyed or allowed to perish from neglect; nor was there any means by which the State could undertake any necessary work of maintenance or repair, and thus relieve the owner of the expense of preserving the monument.

The Act proposes to supply this defect in the law, by enabling the owner of any monument scheduled in the Act to place the monument, by a formal document, under the protection of the State. The effect of this will be in no way to affect or diminish his property, interest, or estate in the monument, except so far as that thenceforward he and his successors will not be able to destroy it. The monument will still continue to be the sole property of himself and his successors, but there will be affixed to it the status of indestructibility, and it will no longer be in the power of anyone, whether owner or not, to destroy or damage it. As an incident to this status the Commissioners of Works, who are charged with the execution of this Act, will, after the monument is thus formally placed under their protection, have the right of access to it from time to time for the purpose of inspection, and will have the right of executing any work which may be necessary for the purpose of preventing its destruction or decay; but here their power ends. No right of access is given to the public, and the monument remains—subject only to the power vested in the Office of Works—as much the private property of the owner for the time being as before.

Subject to this explanation, it is hoped that landowners will readily avail themselves of the Act, which protects monuments thus committed to the Office of Works against any damage from what persons soever, and thus relieves the owner of any responsibility or expense in respect of them.

A tenant for life, who avails himself of the Act, will bind the remainderman and his successors in title.

And also a Memorandum on the Ancient Monuments Act (1900):—

An amending Act of 1900 (63 & 64 Vict. ch. 34), which is to be construed with that of 1882, provides that when the Commissioners of Works are of opinion that the preservation of any monument is a matter of public interest by reason of the historical, traditional, or artistic interest attaching thereto, they may at the request of the owner consent to become guardians thereof, and thereupon the Ancient Monuments Act of 1882 shall apply to such monument.

The Act does not authorise the Commissioners to consent to become guardians of any structure which is occupied as a dwelling-place by any person other than a person employed as caretaker thereof and his family.

Power is given to a County Council to purchase and preserve monuments and to the Commissioners of Works and the County Council to receive voluntary contributions towards cost of maintenance, &c., of monuments of which they are guardians or purchasers, and to transfer from the Commissioners to the Council or vice versa any estate or interest therein or guardianship thereof.

It will be seen that while the object of the earlier Act was the preservation of ancient monuments, consisting for the most part of prehistoric remains, dolmens, ancient forts, &c., the Act of 1900 has a much wider scope, as therein "monument" means any structure, erection, or monument of historic or architectural interest or any remains thereof.

Mention may, perhaps, be made of certain undefined responsibilities, which we are sometimes called upon to undertake in regard to historical buildings, such as the preservation of the amenities of cathedrals from the more commercial spirits of corporations and other public bodies, or from the thoughtless or selfish actions of private owners. I may mention, as illustrating

this point, the recent case at Berwick-on-Tweed where we have, after considerable difficulty, leased the ground upon which stands the Ancient Bell Tower and portions of the Edwardian Walls, so as to prevent the demolition of the ancient walls and the erecting of cottage buildings close to the tower. Representations were also recently made which have led to promised modifications in the design of the proposed Infirmary extension building near Glasgow Cathedral, which will, I hope, tend to preserve the cathedral from the overpowering effect of too near a neighbour. At Dunfermline we are in communication with the Carnegie Trustees, who have very courteously invited our co-operation so as not to interfere unduly with the amenities of the Abbey in their proposed treatment of the surrounding property.

It is almost needless to say that if these national historic buildings are to be conserved, a good deal of expenditure is involved, and here, as usual, we are met with our principal difficulty as architects. It is not easy to persuade those who hold the national purse-strings to approve always of estimates without reduction; but I am glad to say that there has been during recent years an earnest desire by those in authority to do what is necessary for the effective preservation of these buildings, and to afford every facility for the public to view and study them without charge. A sum of about £5,000 is provided yearly for the preservation of these ancient buildings in Scotland, such sum being chiefly expended in providing caretakers, warders, &c., and in maintaining the structures in repair as may be necessary.

While speaking of repairs, I should like to say I have found the necessity of extreme care upon two points in such work, viz.:—

1. The choice of a stone as regards structure and colour which will match as nearly as possible the old work to be repaired; and
2. The manner of re-pointing masonry.

I have found that if masons are left to do such work without constant supervision, they may besmear, with some sooty mixture or cement-wash, the new stone, and daub the mortar or cement over the face of the stonework instead of carefully defining the joints, and I have therefore found it necessary to prepare a special diagram, as fig. 1, which I now send to all clerks of works in charge of such work.

Another extremely delicate matter in connection with these buildings is the proper treatment of ivy. It is, under certain conditions, a protection to the masonry and tends to keep the walls dry. There are, however, two dangers:—(1) The smaller branches may root in a crack or crevice of the wall, and thus cause displacement of stones; or (2) The swelling of old stems may press against and dislocate stones.

I have consulted with Professor Bayley Balfour, of the Royal Botanic Garden, Edinburgh, and he has informed me that, in the case of a wall covered with ivy and into which the roots have already entered, there need be no hesitation in cutting them at their point of entrance, no matter how large they are, provided that the main stem is healthy and has a good hold in the soil. There might be some flagging of branches in consequence of the amputation, and this might diminish the picturesque effect for a time; but, if the cutting be judiciously performed, any blanks in the cover that might be occasioned would be very soon filled.

Ivy should be planted not too close to the wall. By training the leaders to the wall by a plant at a foot or more from the wall, the stems have room to expand without damaging the wall. Where a large stem is already doing damage to a wall there are two methods of relief: either by transplanting the stem, which, however, is an operation with great risk to the life of an old plant, or by shaving—cutting away the stem on the side next the building at points where it presses on the wall. There might be some flagging in the upper twigs after this operation, but the compensatory mechanism of the plant would soon exert itself, and no permanent injury would result. Shoot pruning should be adopted with ivy every spring, to

prevent it rambling too far over the building. Root pruning will have the effect of checking growth, but there is a serious element of danger in applying this process to old plants.

Dwarfing of trees is to be brought about by the gradual inuring of a plant to a restricted water supply, which is the Japanese method; but this is a different thing from the sudden



FIG. 1.—DETAIL OF POINTING.

curtailing of the organ of water-absorption by root snction. It is always a more serious affair to interfere with the roots of an old plant than to mutilate its shoots.

If rapid covering of a building with ivy is desired, a large-leaved form of ivy should be chosen; but the small-leaved forms of ivy grow more slowly and do not require so much pruning. At the same time, their general stem growth is slow, and there is a greater profusion of small clinging shoots with which is formed an intricate net-work over a wall. The two varieties of small-leaved ivy recommended by Dr. Balfour are *Chrysocarpa* and *Palmata*.

I need hardly say that it is advisable, in important cases, to seek the advice of an expert gardener experienced in such work.

I should like now to indicate, with the aid of views, where these will be of assistance, some of the work on these national historic buildings which we have recently been doing. Such work has not been extensive—compared, for instance, with our expenditure on new buildings; but, whereas you might well think it impertinent on my part were I to ask your attention to our *new* buildings, I have an impression that you will be interested to know what we are doing, about even small matters, connected with your noble architectural remains of the past which are under our care.

Beginning near home, I will say a few words about *Edinburgh Castle*—a worthy subject with which to commence. I had intended, I may say, to commence with Holyrood Palace, but although we have done practically nothing of architectural interest at Edinburgh Castle, I think you may be interested to know that something is being done there which may help to preserve from destruction those older buildings which are immensely important from our standpoint.

It has been now fully recognised that the treatment of such buildings by military engineers for military purposes of occupation is incompatible with either the preservation of what is architectural and historic, or the improvement architecturally of opportunities which may occur. The Castle property has, therefore, been transferred from the care of the Royal Engineer Department of the War Office, to H.M. Office of Works, and all building works are now carried out by our Department. As probably all here know, the only buildings which can fairly be called architecturally historical are St. Margaret's Chapel, the Palace, which forms the north wing of Crown Square, with the old Banquet Hall at right angles facing eastwards, and the Argyll Tower at the ancient Castle gateway.

One of the first things which occurred to me upon my taking charge of these buildings was the risk of destruction by fire, and accordingly a careful inspection was made, with the result, after an actual experiment with the city fire engines, that the Firemaster reported to me that in the event of a serious outbreak of fire there was only sufficient water available to supply the steam fire-engine for about six minutes. This condition of affairs is now being remedied at a cost of over £1,000, and there will soon be new fire mains of adequate capacity, with proper facilities for extinguishing fire. With a view to avoiding risk of fire in the most interesting part of the old Palace where the Queen Mary rooms are, we are just endeavouring to arrange for the removal of a military tailors' workshop, such work being, I think, rather out of keeping with the character of the building, and, I think, a source of danger.

There is one building upon the Castle Rock which, I think, all will agree is extremely ugly, viz.: the block known as the "New" Barracks, and we are now considering how best to re-model this block. I am quite alive to the necessity of moving very carefully in the matter, and before anything is actually attempted upon the building itself, I should propose to have not only photographs and perspective sketches from various standpoints, but a model prepared for full consideration.

Holyrood Palace.—The remains only of the *ancient* House and Abbey can be considered as properly coming within the limits of my subject; it will, therefore, probably be recognised by all here that my remarks should be confined to the north-west corner of the present Palace and the Chapel Royal. Here, again, I found the need of proper provision in the way of fire-mains and hydrants to meet a possible conflagration, and these have been provided to the satisfaction of the City Firemaster.

You will notice that the view of the west front [*see headpiece*] shows two empty recesses in the stonework of the two ancient turrets. The sculptured stone panels were removed by



FIG. 2.—SCULPTURED PANEL PROPOSED TO BE REPLACED IN BENCH IN TURRET OF WEST FRONT, HOLYROOD PALACE.

order of the Parliamentary Commissioners sitting at Dalkeith in 1652. We are now endeavouring to trace these sculptured stones, and one panel, at any rate, will, I expect, shortly be replaced or restored. It is now standing in fragments within the Chapel Royal, and represents the Royal Arms of Scotland, supported by a Unicorn bearing the banner of St. Andrew, as shown in fig. 2.

Another little bit of restoration work has just been done in Queen Mary's Audience Chamber—the removal of a comparatively modern partition which divided the room into two parts. Visitors will now be able to see the chamber practically as it was at the famous interview of John Knox with Queen Mary, and it will be worth while to look at the old ceiling now that it can be properly seen, especially as this is the only ceiling at Holyrood which is part of the original building as occupied at the Queen Mary period. There is an interesting little stair to be seen now which was until recently kept closed. This stair led directly from the Audience Chamber up to the prison cells above. The quaint old wrought-iron grate in this room was falling to pieces, and it was thought worth while to have this reproduced: This has been done, as fig. 3, and I think fairly successfully, the remains of the old grate being left for visitors to see. The old internal stone-



Remains of Old Grate.



Reproduction of Old Grate.

FIG. 3.—ANCIENT FIRE GRATE IN QUEEN MARY'S AUDIENCE CHAMBER, HOLYROOD PALACE.

work chimney-jambs and door-jambs of these rooms were stopped with putty and painted with common oil-paint. This we have just had cleaned off, so that the original stone face is now seen, giving more character to the rooms.

A very large number of visitors pass through these historical apartments, sometimes as many as 5,000 in a day; and there has been considerable damage done to the priceless pieces of old furniture and tapestries by the fingering and dust caused by the crowds of people. Until recently the warders were allowed to sell guide-books and photographs within the rooms, and, consequently, had no time or attention for the proper discharge of their duties. This has now been changed, and it is hoped that the new condition of things will help to preserve all that is valuable to the utmost degree.

Some of the more interesting pieces of ancient furniture are being carefully cleaned and restored, together with the tapestries, which are very valuable. I have recently been experimenting with a suitable tone of old graining for the woodwork in place of the crude stone colour with which the woodwork was formerly painted, and the result will, I hope, be greatly to aid in the general effect, so that the full value of the delicate shades of the tapestry may be brought out.

In the Chapel Royal, I am sorry to say, a great deal of damage has been done to some fine inscribed grave slabs by visitors walking across them. This could not be wondered at, as the centre part was turfed, with a notice that visitors should "keep off the grass." The result of course was that visitors were deliberately turned on to the inscribed slabs to walk over and deface. The grass has now been removed and replaced by gravel, and notices are about to be placed requesting visitors to "keep off the grave slabs." A low railing will be placed round the more important group of grave-stones.

An examination of the famous sun-dial in the Palace Garden has recently been made, and estimates procured for replacing the missing gnomons, lines, and figures. I am anxious to have these properly restored, for it seems a pity that this quite unique example should be allowed to fall into disrepair; I hope this little restoration will be done shortly. A view is shown in fig. 4.

Parliament Hall.—We have recently been attempting to deal with this beautiful old hall, shown in fig. 5, and have spent something like £800 upon it. The fine old open timbered oak roof has been cleaned, many layers of dirty reddish-colour varnish having been removed, and the old oak tone restored as far as possible. A new oak and teak-wood solid parquet flooring has been laid; the walls have, after very careful consideration and advice from Sir James Guthrie, the President of the Royal Scottish Academy, and Mr. Walton, R.S.A., been repainted, so as to give the general effect of stone, as far as light and tone are concerned, and the large stained-glass south window has been restored.

An interesting little bit of simple restoration has also been done. My attention was more than once called by leading members of the Scottish Bar to references in the "Memorials" of



FIG. 4.—SUN-DIAL IN HOLYROOD PALACE GARDENS.



Photo by Alex. A. Inglis, Edinburgh.

FIG. 5.—SCOTTISH PARLIAMENT HALL, EDINBURGH, AFTER RESOVATION 1905.

Lord Cockburn "to a small window high up in the east wall of the Parliament Hall," through which a Macer called the Causes. "This Macer" (says Lord Cockburn) "was an old, firm-set, hard, angular man, named Graham, who had long been in this vocation, and was the most official and picturesque person I have ever seen in it. Large square face, wooden-featured, grave and formal, with an amazing voice, loud, distinct and swinging, the murmur of the Outer House used to be stilled when this image stuck its awful head through the lofty orifice, and sent its slow, articulate tones into every corner and every ear below calling people to their tasks and dooms."

Our first attempt to find this window failed—there being no sign upon either side of the east wall of any such window; but upon our knocking away the plastering in a store-room, which appeared to have formed originally part of a circular staircase—the upper part of which still remains, but the lower part of which was removed when the present façade to Parliament Square was formed early last century—the window was found. This has been restored, and can now be seen by visitors, as indicated near the left-hand upper corner of Fig. 5.

At *Linlithgow Palace*, *Glasgow Cathedral*, *Fortrose Cathedral* and *Elgin Cathedral* little has been done which would be of interest to describe; but a good deal of expense has been incurred in such work as repointing, &c., for preservation. In the Chapter House at *Elgin Cathedral*, however, I was somewhat alarmed last summer to find that the eastern wall had parted from the vaulting to the extent of about $1\frac{1}{2}$ inches, and I am afraid that the damage has been caused by the ivy-trunk against the wall outside. The open parts have been carefully repointed, a watch will be kept upon the joint, and the ivy will, if really necessary, be dealt with.

Dunfermline Abbey.—Here we have had another very interesting little restoration. A memorial tablet to the soldiers who fell in the South African War was about to be fixed in

the old abbey, against the external wall at the eastern end of the south aisle, and upon the workmen commencing their operations it was found that they were striking thin stone slabs instead of solid wall, and that it was hollow behind. Upon an opening being formed the remains of an old doorway were seen from the interior, but no proper examination of the doorway could be made externally, because the Wardlaw family vault occupied two spaces between the buttresses immediately upon the other side of the wall, as shown in fig. 6. After some little difficulty an agreement with the present Baronet was arranged whereby a sum was paid to enable us to remove a part of the vault so as to expose the doorway from the outside. The result, as you see by figs. 7 and 8, proved worthy of what had been done, for this is a truly wonderful case of preservation for a Norman doorway. Very little in the way of renovation has been necessary. What new stone was required we obtained almost entirely from the stones removed from the vault, a few blocks being carefully selected at a local quarry of the same colour and texture as the old. The newly exposed stone has been very carefully treated with silicate preservative composition, and I hope will be taken care of by those in charge for many years.

Inside the cathedral little has been done; but I should like to refer to one little bit of restoration. Some thirty years or so ago a very ordinary stained-glass window was inserted at the eastern end of the north aisle, and, in order to make it more conspicuous, the gabled or pedimented upper part of a very fine old memorial to Secretary Piteairn was removed. This Secretary Piteairn is referred to in history as one of the Commissioners appointed in 1571 to treat with Queen Elizabeth regarding Mary Queen of Scots, and to contract a league



FIG. 6.—DUNFERMLINE ABBEY, SHOWING WARDLAW FAMILY VAULT BETWEEN BUTTRESSES BEFORE RESTORATION OF NORMAN DOORWAY.
Photo by Alex. A. Inglis, Edinburgh.



FIG. 7.—DUNFERMLINE ABBEY: GENERAL VIEW BETWEEN BUTTRESSES OF SOUTH AISLE, SHOWING NORMAN DOORWAY RECENTLY RESTORED.

Photo. by Alex. J. Innes, Edinburgh.

offensive and defensive. This upper part of the memorial had been coolly removed to the other end of the nave, and had been roughly stuck against the wall with a rough rubble backing. This has now been replaced in its proper position, and the Pitcairn Memorial can now be seen complete, the stained-glass window having been somewhat altered to meet the views of the present representative of the family concerned.



Photo by Alice, A. Inglis, Edinburgh.

FIG. 2.—DUNFERMLINE ABBEY: DETAIL OF RESTORED NORMAN DOORWAY TO SOUTH AISLE.

The Palace Ruins adjoin Pittencrieff Park, lately presented by Mr. Andrew Carnegie to his native town; and we have come to an arrangement with the Carnegie Trustees, so that the Palace Ruins are now accessible from Pittencrieff Glen, and are accordingly much more frequently visited.

St. Andrews' Cathedral.—Although we have not done much of interest except in the way of repointing for preservation, our antiquarian friends have been spending a good deal of time in searching for relics; and one find is worthy of mention—that is, the stone coffins of the Priors which were known to have been buried in the Chapter House. Dr. Hay Fleming is of opinion that the five stone coffins shown in the foreground of fig. 9 may be those of the Priors of whom the Abbot Bower of Inchcombe, who died in 1449, wrote. The Abbot gives a list of the Priors of St. Andrews, beginning with Prior Robert, who died in 1162, and ending with Prior Haldenstone, who died in 1443. He refers to the various places in which a number of these Priors were respectively buried. Seven of these are referred to as having been buried in the Chapter House—two in the old Chapter House and

five in the new Chapter House. Now, it is certainly curious that two full-sized cists or slab coffins were found on the 13th September last in the vestibule of the Chapter House, which has been generally regarded as the old Chapter House, and a few days afterwards the five dug-out coffins were found in the new Chapter House, as here shown.

There is in the Cathedral grounds a fine collection of ancient Celtic-inscribed grave-stones, and with a view to the protection of these from further decay we have been endeavouring to erect a museum building in a vacant corner of the grounds. Our efforts have, however, I am sorry to say, been thwarted for the present, objections having been raised by an adjoining owner on legal grounds to the erection of the building. I hope, however, that something may be arranged before long which will enable us to provide



FIG. 9.—ST. ANDREW'S CATHEDRAL CHAPTER HOUSE: RECENTLY DISCOVERED STONE COFFINS OF THE FIVE TRADERS.

a building for the preservation of these stones and others which may be found. It is highly desirable that such a museum building should be provided at St. Andrew's, not only for the inscribed stones, but also for the preservation and exhibition on the spot of a large number of "finds" relating to the Cathedral, including many fragments of sculptured stone, ancient stained glass, &c., which should be carefully preserved.

We have recently taken over from the Town Council the Pends, fig. 10, which were in a rather bad state of preservation owing to long neglect. Considerable-sized shrubs were growing upon the top of the walls, and somewhere about twenty cartloads of soil and rubbish were removed from the top. The masonry has now been thoroughly repointed with cement, and the decay has doubtless been arrested for a considerable time. We hope shortly to take in



FIG. 10.—ST. ANDREWS CATHEDRAL: THE FENESTRATION.

Photo by Valentine & Sons, Dundee.

hand, in conjunction with the University authorities—who have a lease from the Crown—the repair of the old abbey walls, which have likewise been badly neglected for many years.

St. Andrews Castle has had a good deal of attention the last two or three years. It was discovered about three years ago that the sea had encroached very seriously at the foot of the Castle, and that the main walls were seriously undermined. This was taken in hand and a sea-wall erected at a cost of £2,200. There is no doubt that if this work had not been done there was serious risk of an entire collapse of the northern part of the Castle Ruins. We have recently removed the unsightly rough stone dyke in front of the Castle principal entrance, and have provided a wrought-iron railing so that the Castle may be better seen, as fig. 11, from the principal approach. A new bridge across the moat has also been provided.



FIG. 11.—ST. ANDREWS CASTLE, WITH NEW RAILINGS TO AFFORD BETTER VIEW OF BUILDING.

Arbroath Abbey.—In addition to a good deal of repairs to masonry, &c., we arranged with the Town Council a few months ago for the transfer of the Pends [fig. 12], a beautiful example, and the adjoining abbey buildings, including the Regality Tower [fig. 13], also the



FIG. 12.—ARBROATH ABBEY: THE PENDS.

Photo by G. A. Gilman, Arbroath.

ancient parts of the Abbots' House, with its interesting stone-vaulted kitchens &c. These buildings had been allowed to fall into a serious state of decay, and were not open for visitors to examine. This, however, has now been altered, a considerable amount of money has been spent in repairing stonework &c., and more will be done this year to make it worth while



FIG. 13.—ARBROATH ABBEY AND REGALITY TOWER.

Photo by G. A. Gibson, J. & J. Smith.

for those interested to examine the old parts of the Abbey buildings which were formerly occupied as jute stores, &c.

Dundrennan Abbey.—As this ruin is in so isolated a position it is little visited, but the views given in fig. 14 will indicate its interesting character. We have during the last year done a good deal in the way of repointing, and in making the precincts more tidy generally.



View from North-West.



View from South-West.

FIG. 14.—DUNDRENNAN ABBEY.



FIG. 13.—ROSYTH CASTLE, FROM THE SOUTH-WEST, AS EXISTING.

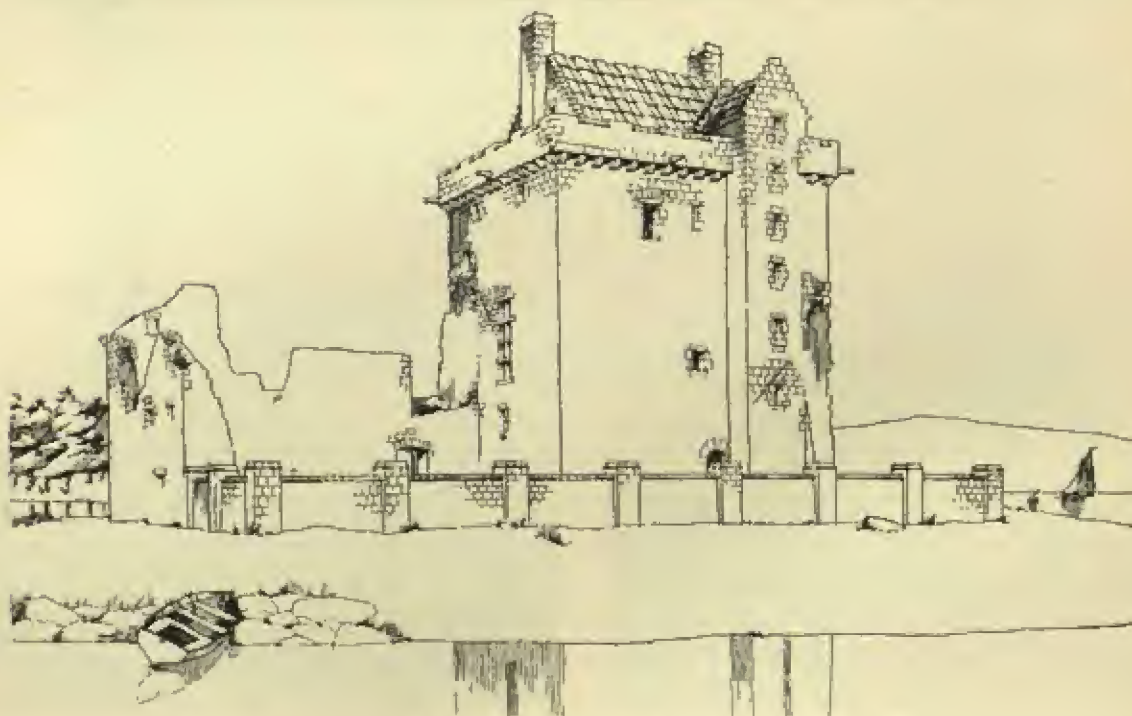


FIG. 14.—ROSYTH CASTLE. PROPOSED RESTORATION.

Haddington Church Ruin.—At a recent inspection of this building I noted a good deal which required attention. Inquiry as to the exact relation of our Department to the Heritors is now being made, and I hope we shall be able, jointly or severally, to do something to prevent further decay. In this case the sub-soil is very loose and uncertain, and great care will be required if an entire collapse is to be prevented within a few generations.

Rosyth Castle.—It is generally known that this old Keep forms the central feature of the proposed northern naval base. This is one of those cases in which we are acting as architectural advisers to the Admiralty. It was thought that the old Keep might be restored for the purpose of utilising the accommodation available in some way connected with the naval scheme. Accordingly designs have been prepared for a restoration, as now shown in fig. 16. One principal apartment might be utilised as a Reading-room for Naval Officers, and the other for the purpose of a Naval Museum. The plans are now under the consideration of the Lords of the Admiralty, and I hope that the scheme will receive sanction. It would certainly be a pity to let the building fall into further decay, since it is of much historical interest. Two inscribed dates are to be found upon the building. One, "1561," upon a panel with the Royal Arms and the letters "M.R.," above the principal entrance to the courtyard on the landward side. The chief interest of this date lies in the fact that Queen Mary, on her return from France, landed on the opposite shore at Leith in August of that year. The other date—which is not quite legible—"1635" or "1655"—is inscribed on the external face of the lower transom of the large west window, with initials which are somewhat doubtful, but thought to be "E.R.," an anchor, and "S.M.N."

In conclusion, I must apologise for the fragmentary nature and incompleteness of this effort to enlist interest in what we are trying to do at H.M. Office of Works for historic buildings in Scotland, and to say that I shall always be very pleased indeed to receive information and suggestions which may help us to conserve these national treasures.

I should like to add that the First Commissioner of Works and the Board under whom I have the honour to hold office are keenly alive to the interest and national value of these treasures in stone, and that the ready assent of the Board was given to the reading of this Paper before the Association.

GOTHIC ARCHITECTURE IN ENGLAND.*

MR. FRANCIS BOND'S published works on mediæval architecture have always commanded attention: they show him an unwearied searcher into authorities, as well as having a wide first-hand acquaintance with his subjects, and he is most often to be found acute and reasonable in his deductions from his material. He is to be welcomed, therefore, when he comes before us with an extensive work on the Gothic architecture of England—a book big in every sense of the word, for he proposes the full analysis of the English examples of Gothic mason-craft. As was to be looked for, his pages are crowded with information of facts and authorities. He has brought together the conclusions of an extraordinary number of observers, native and foreign; and for this reason the book will be indispensable to the student of our English architectural styles, as well as for the wealth and completeness of its illustrations and the thoroughness of its cataloguing. George Edmund Street seems really the only first-class authority that has not been noticed, and perhaps the neglect has had a reason. As to Mr. Bond's photographs and references, one is amazed at the patience with which he has collected and sifted his examples. He modestly calls the result an analysis—one might rather speak of it as a "corpus" of the remains of English mediæval architecture rendered by camera and quotation. I really cannot find one important piece of our English work that is not brought to notice for its chief and distinctive features, save that one may notice perhaps scanty reference to the Scotch monastic architecture. Dundrennan, Kelso, Jedburgh, and Dryburgh really belong to English style, and are only a mile or two over the border.

A full treatment like this undoubtedly makes for a big book, and there is a bodily bulkiness in the volume that advertises the capacity of its intellectual completeness. I confess, however, that this material obesity is a hindrance to that enthusiasm of constant reference to which the contents of the volume invite me. I have the English-

man's full right to grumble at the perversity—more of publisher than of author, I am sure—that weights such a book with thick ugly paper in broad expanses, justified by no intention in either printing or binding towards making a *pretty* volume. There are really too many margins in which the text runs, as it were, to seed. I do not deny that a book of this sort should have a well-reasoned and complete index, but here we are rather embarrassed by the supply. At each heave of this massive volume we lift the dead weight of some 150 pages of unnecessary type.

But for a good body of superfluous matter, not publisher, but author, should be reasoned with. Why was the first part of Mr. Bond's book extended to a length of 140 pages? One is bound to ask the question, because on Mr. Bond's own argument these first six chapters have the appearance of being unnecessary, not to say mischievous. His introduction is very severe on those who commit the crime of writing about architecture on the periodic plan of ordinary history. Yet here he is taken in the same fault, and establishes epochs in English architecture neither wisely nor too well. I have a theory to account for this. It seems as if Mr. Bond is not sure that his introduction will thoroughly convince people by its condemnation of the older periodic presentation of mediæval architecture. He is eager to show what a bad way of treating the subject it is, and therefore exhibits a series of periodic characteristics, quite in the old way with definitions and labels, parcelling Gothic up into three periods as snugly as any textbook of Parker's; and not content with this, he must needs show another periodic division by twenty-five-year intervals. It is as much as to say: See how futile and unsatisfactory all such divisions are to represent the essential features; go on into my Part II., and there you will see the real philosophic treatment and how superior it is!

There are, of course, two ways in which a body of matter, either physical or historical, can be divided up for analysis: we may either slice it

* "Gothic Architecture in England." By Francis Bond, M.A. 1s. 8s. Lond. 1905. Price 31s. 6d.
[D. T. Batsford, 84 High Holborn, W.C.]

horizontally or vertically. No question that all history has come in sequence to an older history, and the horizontal slicing may lay too much stress on the distinction of epochs. On the other hand, the vertical slicing which cleaves architecture into a bundle of separate designings is just as unsatisfactory when it leaves out of account the great moving forces that differentiate one generation of men from the next—when it shuts its eyes to the lift and drop of the curtain on faiths and ideals. Nay, it is not only pleasant, but profitable, to wander at large in the "Early English" style and note how its plans, its constructions, its larger and smaller architectural ways, its sculpture and its painting, are all knit by the feeling of a common style; and none the less in "Perpendicular," where all is so different, and yet all equally whole-hearted and peculiar of its kind. English Gothic architecture, as traversed by Rickman in a series of meditations on three or four distinct manners, was not so void of life or interest as Mr. Bond would wish us to believe. I am not disparaging the value of the other method. There is no doubt an exhilaration in being shot up through the stories of Gothic in the lifts that Mr. Bond has contrived for us, and see the styles flit past us from Romanesque to Jacobean. Our critical faculty is flattered by being made to know so much with such little exertion. Mr. Bond would give us Mr. Wells's time machine, so that the centuries of Gothic experiment work out before our eyes their dramatic evolution. Of course we are nothing nowadays if not evolutionists. But though our author sees—as he does so clearly—that the explanatory and convincing feature of Gothic style is its continuous growth, he is not justified in re-spelling evolution as Revolution; and, supposing himself a Robespierre, that must send to the guillotine all the old order of architectural teaching.

No doubt from the point of view of the disheartened educationist there is cause for Mr. Bond's aversions to the hackneyed nicknames "Norman," "Early English," "Decorated," and "Perpendicular."* The eagerness of the British lecturee (if I may trespass on legal terminology) in pursuit of a label is such that he is not happy till he gets it, properly coloured and registered, so that he can proudly affix it to the specimens of architecture he comes across. The lecturer knows for what the comparative method of presenting architecture is answerable, and gets a real horror of

the cant phrases of archaeological summary which his audience absorb so easily. Getting somewhat contemptuous of the value of the distinctions which he establishes, he has an itch to vary his doses and see how it works with the public. May he not take the hint from the sister profession of medicine which philosophically seems always ready with some new disease with label and treatment all complete for their patients who wish to be in the front of fashion? Mr. Bond may be pardoned as a University Extension lecturer, but yet in a book like this is he not upon something of more account than the acquisition of a manner to suit blue-stockings archaeologists? Lecturer's "malaise," bad as he may have it, does not justify him in putting forth a new system of periodic classification when he does not believe in such classification. At any rate, if the divisions of Rickman and Sharpe are not the whole truth, is this better presented by three periods, as our author puts them, the first from 1170-1315, the second from 1300-1350, the third from 1330-1538? What were those fifteen years from 1315-1330 that they are to be excepted from the rest, and need a whole chapter to themselves? Mr. Bond clearly has his tongue in his cheek: for when he has submitted his classification he follows it with an antidote, a *reductio ad absurdum*, a twenty-five-year periodic capitulation of the works of English Gothic!—as much as to say that any classification is as good as another. Indeed, there is nothing to choose in insight, appropriateness or grasp of subject, between the characteristics elaborated for his three periods and the remarks that have to be beaten out very thin indeed to get them to be spread over the twenty or so quarters of centuries which the strict chronological treatment offers. Most of Mr. Bond's oversights and doubtful assertions occur in these preliminary efforts at a kind of history for which, as his introduction tells us, he has clearly no fancy. But if this is so, why should this big book not be lightened of a good hundred pages?

Another unnecessary lengthening is given by our author's quotations in full from French archaeologists. It is the excellent feature of Mr. Bond's treatment that it is written in full consciousness of the great work done by the distinguished German and French archaeologists whose labours have now put the history of architecture in their own countries on a scientific basis. The bearings of the work abroad on our own are constant, and many of our movements can only be explained by reference to the fuller evidence and larger examples that exist abroad. Moreover the foreign

* The author, however, uses the term "Jacobean" with all the freedom and looseness of an archaeological picnic.

archæologist is beginning to apply the same scientific analysis to our English work, and to see that there was in this island an important province of mediæval architecture whose action on the Continental work was every now and then a factor in the advance of art. Still, extensive French quotations (except of course in view of the *entente cordiale*) are hardly justified for what are commonplaces in all English textbooks, such as that Gothic was the development of Romanesque. Nor did it need a whole page to show a gratified recognition of M. Enlart's excellent *Manuel*, because he has lately discovered that English Decorated lay at the beginning of French Flamboyant. On this side of the Channel this has been evident long ago.

However, there is a great deal besides padding in this big book, and we leave cause of complaint on this score behind us when we come to p. 142, and Mr. Bond starts on the real things that interest him in Gothic architecture—the genealogies and life-histories of its constructive forms. The value of his treatment lies indeed in the narrow definition of it. Leaving to other writers the whole body of tradition, faith and feeling, whose sincerity made mediæval architecture the expressive art it was, our author concentrates attention on the development of forms as arrangements of design—design in his hands being the selection of one or other out of the possible dispositions of plan or constructions of material. I think Mr. Bond gives too much importance to the power of selection in the mediæval builder. Nowadays, knowledge having ransacked all the ancient arts, the many variations and possibilities of architectural arrangement present themselves to the mind of the designer at a thought and on the dead level of indifference. But the mediæval church-builder or mason had neither the knowledge nor the cold discrimination of the modern architect. Form to him was a ritual, not a plaything, and so his experiments in making practical provision for the needs of a religious building have a meaning beyond that of æsthetic discrimination which Mr. Bond too often implies as the whole essence of design.

Our author rather shows his limitations when he proposes to criticise Gothic architecture as art and makes observations as to the liberties of artistic development. The thesis that when constructive needs are satisfied then art can come in to beautify them makes, I fear, the groundwork of much that he writes; as, for example, in respect to fourteenth-century roofs.* Indeed there seems throughout a

certain insensitiveness to the feeling of style, as, for example, when he thinks Winchelsea quire is like that of Bristol, or sandwiches a Taunton fifteenth-century capital between the characteristic Romanesque examples of Oakham and St. Denis. His praise of the tame mechanical performance of Louth spire marks, I think too, the same calibre of appreciation.

In his own province, however, of analytical discussion our author is excellent, and is particularly to be commended for the courage with which he ventures on explanatory hypotheses, whether they explain everything or not. He puts the question of lighting in the forefront of the working causes by which mediæval architecture was shaped. It was so no doubt, but I am not sure that this was the key to as much as our author fancies. For example, he claims the development of the English triforium as an effort to get light through its openings into the nave. Such can hardly be the explanation of the difference in this respect between the naves of Ely and Peterborough on the one hand and those of Gloucester and Tewkesbury on the other—the former with great open triforium galleries, the latter with little or none, like the Cistercian churches universally. It is clear that we have in these diverse treatments, not variety of selection as to lighting expedients, but necessities of design imposed by tradition and ritual.

Again, he contends that the development of the English bluff east end of full height as against that of lower projecting chapels was due to the superiority of the former method in its lighting capacity. But how is Salisbury quire, the typical example of the latter, worse lighted than the contemporary example of Ely, where, with all the advantages claimed by Mr. Bond for the high gable, they had afterwards to open out the blind-story to get further windows?

Finally, the mediæval glass-painters cannot be accepted in the way Mr. Bond would wish them to be, as the motive power in the elaboration of the window. Twelfth-century openings, as at Chichester and Canterbury, gave indeed, for the glass-painter, a wider area than he ever got again in England. The spread of the window as well as the tracery itself was purely a development of the stonemason; only in the latest Gothic did the commercial necessity of making glass panels of uniform size and stock design formalise and finally extinguish the structural motives.

Still, in the long run the practical necessities of church-building, though they got their strength from faith and artistic ideals as well as from

* P. 658.

material, did govern the progress of architecture; and it is our author's strict adherence to the designing side of the Gothic development which gives his treatment a unity and directness of intention. His Part II., when we get to it, is valuable because Chapters viii. to xliii. analyse on the side of constructive adaptation the whole body of English mediæval church-building and give an encyclopædia or dictionary for English Gothic much on the lines of Viollet-le-Duc's *Dictionnaire Raisonné de l'Architecture*.

Instead, however, of separating up the discussions under a large number of headings put in alphabetical order, Mr. Bond concentrates the various details of construction into a series of treatises so arranged as to take the reader through the whole building of the mediæval church. Its plans, its walls, its vaults, their abutment and weather-protection, the decorative features, the lighting and finally the roofs, with the spires and towers which completed the fabric, are submitted to analysis, and have their life-history in Gothic art systematically and fully worked out. There is a scientific and satisfying method in this on which Mr. Bond is to be congratulated. Having myself attempted to show the coherent development of Gothic architecture, I may be allowed to observe how Mr. Bond has been able to do this with a wider grasp and a much greater wealth of examples. Many of the treatises—such, for example, as that on the planning of the English Romanesque church—are masterly. He discovers in the great pilgrim church of St. Martin at Tours the starting-point of that aisled apse with radiating chapels which was popular in England. This type of plan was particularly developed in Languedoc, where, as well as in Burgundy, the influence of Cluny was paramount, and Mr. Bond, I think, unduly depreciates this influence in England. Though the Cluniac houses were few, the Benedictine architecture of England was strongly impregnated with the Cluniac encouragement of the arts. Viollet-le-Duc's theories went too far, and were no doubt too positive; but the French criticism of them has spent its force, and the latest consideration makes clear that if there was never a Cluniac style, as Viollet-le-Duc maintained—i.e. one created at and propagated from Cluny—there was a wide action and influential stimulus throughout West European art that arose from the Cluniac cultivation of the arts of building.*

Mr. Bond's evolutionary series are not always intelligible. For example, the chapter on transept planning (p. 197) states that chapels developed in France between the great vault-buttresses, whereas the English, not having such buttresses, got the same chapels in the aisles of transepts. But the English aisled transepts with chapels, as at Ripon and Lincoln, had nothing to do with such an origin, for they were a hundred years earlier than the French utilisation of buttresses to which he refers. Moreover, the note on the same page as to Chichester being an exceptional instance of the French method in England is hardly accurate. There were built there projecting chapels to the nave, such as occur in other English cathedrals, but at Chichester buttresses and chapels were built simultaneously, not the latter settled in between the piers. This is one of the many occasions where Mr. Bond's study of Chichester has been unfortunate.* He has, it seems, partly misunderstood and partly been led astray by Professor Willis's *Monograph*. In the first place the periapsidal plan, which Mr. Bond assigns to the early building of Bishop Ralph, cannot be established from the remains of it in existence. This is clear now if it was not so in Willis's day. And then he accepts Willis's sections of the nave as showing double flying buttresses to a vault of c. 1180. There were neither single nor double buttresses really to this vault. What are shown in the sections were exceptional struts to a leaning wall, probably antecedent to the vault, and at any rate having nothing to do with it.

Apart from these slight blemishes the treatment of vault development is thorough and informing: so also is that of window tracery, every essential point being well made. I cannot, however, agree that the west window of Binham Abbey in Norfolk can be taken as the wholesale introduction of bar tracery into England, despite Mr. St. John Hope's authority for its date at c. 1248. The evolution of tracery out of geometrical piercings can be seen naturally made in the building of Salisbury Cathedral, led up to by the domestic uses at Wells in the Bishop's Palace, and at Winchester in the King's Hall.

The discussion of piers by Mr. Bond shows some heretical opinions as to Purbeck marble, e.g. that

* Mistakes as to Chichester are made on pp. 336, 370, 371, 375, 378, and the section of its moulding (p. 696) is absurd. As to the "filling in" of the Chichester vaults, our author would seem to have been misled by his photography, in which the lines of jointing seen are those of painting only: the actual vault filling is irregular, and can scarcely be called on the French method.

* See the latest opinions in Michel's *Histoire de l'Art*, tome i. p. 636.

it is "brittle," whereas it is one of the toughest of stones; that its shafts were turned, not at Corfe in Purbeck, but on the job at Canterbury; and particularly that William of Sens made *lathes* to turn them. Our author must have access to a text of Gervase different from that edited by Bishop Stubbs and translated by Professor Willis. In these I cannot find "*tornemata*," as he quotes the word, but read "*ad lapides trabendos tornamenta fecit valde ingeniose: formas quoque ad lapides formandos.*" Gervase's words must have reference surely to cranes for landing and moving the stone, and to moulds and centerings for its cutting and erection.

Much of the many-sided art of the Middle Ages is outside Mr. Bond's purview. Figure sculpture he dismisses in a paragraph, just as he does the master workmen in a note; and in treating of the decorative carving he is interesting, but scarcely conclusive. I cannot accept his pedigree for the trefoil leaf in Transitional and Early English carving, that it comes from the Temple of Zeus at Athens. This is far too long a stretch even for an hypothesis; and in this, as in many other of his remarks upon sculpture, Mr. Bond has strangely overlooked the key to it all that lies in the contemporary painting of walls and manuscripts, and in all the ivory and metal works of the goldsmiths. The trefoil has a long ancestry in these before the chisel carved it in stone. Indeed, that Gothic buildings were painted throughout and sumptuously filled with all kinds of painted and gilded furniture is, of course, known to Mr. Bond, but far too seldom remembered.

The chapter on roofs, too, is disappointing. Mr. Bond has not quite mastered the technical mystery of carpentry: he is not quite sure how a timber "principal" is framed, and how this governs the construction of buildings. Now this is part of his work where he would have found the value of referring to one who did know. George Edmund Street's "*English Woodwork of the Thirteenth and Fourteenth Centuries*," which appeared in the Institute's *PROCEEDINGS* of 1865, and were republished in 1887, gave a most complete and masterly exposition of English timber roofs. But our author has overlooked Street or disagreed from him.

It is because of the high value, as well as the copious illustrations, of these original discussions by Mr. Bond on the evolution of English architecture that it has been necessary to make some remark on their defects. It is difficult to give

a whole-hearted recommendation to this ponderous work as at present printed, but it might be easily made an authority to be consulted on all occasions by archaeologists, and read with every advantage to the student. The replacement of the matter contained in the first six chapters by simple tables of dates and of the other statistical information, without any attempt to upset the accepted periods of Gothic design, would at once lighten the bulk of the book and, I would add, clear Mr. Bond's reputation as an archaeologist; for there are many errors and misjudgments in these chapters: for example, as to Canons Regular being attached to cathedral churches.

Then could not the book be cured of its attack of indolence? The number and magnificent scale of its reference tables make them nuisances: they are specialised to a degree that takes them out of adaptation to common uses. One has to look up three separate indices for date, place, and illustrations—and then, searching the whole six of them, one has no guide to a special feature of Mr. Bond's investigation, that into the opinions of other people. For example, one is given no means of finding where Viollet-le-Duc or other authority is quoted. The catalogue of mouldings takes up many pages, and is practically useless without indication of the date and place of each example. The index of illustrations is likewise a cumbrous affair as printed. The origins of the plates with the approximate dates should be added to the titles in the text, saving space as well as the time of the reader; and certainly one general index could combine all the advantages of the separated specialities that stand for it.

Finally, this book, as is the fate, alas! of most books which deal with a vast multiplicity of facts, is in some cases strangely inaccurate; as, for example, in publishing the view of the modern ceiling given to Boston tower-space by Sir G. G. Scott as the vault of Lincoln Central Tower. No doubt a thorough revision will precede the next edition. But particularly Mr. Bond should be sure that he understands opinions before he quotes. I have a personal feeling on this point, since with regard to the dressings of the stone in Chichester Cathedral Mr. Bond in referring to my small investigations puts a wrong interpretation on my views; and in another instance, when he refers to an opinion of mine as to Breton architecture, he not only misses the point entirely by misquoting my "fourteenth" century as "fifteenth," but argues on his own mistake.

EDWARD S. PRIOR.

NOTES ON CYPRUS, 1905.

By GEORGE JEFFERY.

THE island of Cyprus was visited twenty-five years ago by two members of the R.I.B.A. (Messrs. Edward I'Anson and Sydney Vacher), whose report upon the architectural remains and antiquities was published by the Institute as an extract from the TRANSACTIONS of 1882-1883.

During the past twenty-five years the Institute has also published papers on the archaeology of the island; and many articles in the *Architectural Review*, *The Builder*, and other periodicals have been written by the present writer and others on the mediæval and Renaissance art. Russian archaeologists, represented by M. Y. Smirnoff (1897), have been interested in the splendid Byzantine mosaics of Kiti and Leonarisso; and the French architect M. Camille Enlart has written one of those charming monographs on art which seem almost a speciality of his race. "*L'Art Gothique et la Renaissance en Chypre*," published in 1899, is one of the most fascinating of books in the style of Viollet-Le-Duc, full of the brilliant little woodcuts which are a characteristic of French book illustration.

The following notes are intended to give some idea of the present condition of the monuments of Byzantine and Gothic architecture which have formed the objects of study to the above-named writers since the British occupation of the island in 1878. Before that period few if any regular architectural studies were made in Cyprus, with the exception of the valuable plans and descriptions of the castles of St. Hilarion and Buffavento by M. Rey for his "*Architecture Militaire*" in 1871, and a slighter reference in the "*Monuments de Chypre et de Rhodes*," by the Marquis de Vogüé, in 1860.

After nearly a quarter of a century, during which Cyprus has enjoyed the advantages of a British administration, the following sequel to the Paper read before the R.I.B.A. in 1882 may have a certain interest.

For the purpose of a *résumé* of the present conditions of the architectural monuments it will be sufficient to refer to the notes of Messrs. I'Anson and Vacher in 1882, and then to the great work on the subject by M. Enlart. The previous accounts are not of sufficient importance for the present object.

Mr. I'Anson states that, at the time of his visit (1881-1882), "at Nicosia columns also exist, one or two of which stand erect near the Government

House, carrying Doric capitals of the Renaissance character." He seems to refer to a column (still in existence) or columns which probably carried the insignia of the Venetian Republic. Of these columns the one still surviving (illustrated in *The Builder*, 21st July 1900) is a granite shaft about 30 feet high with a curiously inscribed base. The Venetian coats-of-arms, which had been removed by the villagers, have been lately replaced. This column is "Evkaf" property. If any other column existed—which is probable, as the Venetians always erected two columns, or a column and a flag-staff in front of their Government offices—it has since disappeared.

At Famagusta Mr. I'Anson noticed the ruins of the Venetian palace and the water-gate of the town. These are still much as he saw them, only the water-gate has suffered somewhat from the harbour works.

The fortresses of Nicosia, Famagusta, and Kyrenia are no longer in "a very good state of preservation." The curious bulwark built round Nicosia as a complete circle with eleven bastions which Mr. I'Anson saw in a perfect state has since been subjected to a large number of "cuttings" to form roads and paths, and the stone facing has been largely destroyed by villagers, who have built their hovels with it. Amongst the old stones made use of in building this fortification in 1560 many carved lintels and arch-stones, &c., from ruins of the period are found: some of these have been rescued and placed in the collection of mediæval fragments at the A. Nicholas grain store.

It could hardly be expected that the restoration of a port long extinct to commercial use would leave the old town of Famagusta unimpaired archaeologically. The interior of the fortress remains much in the condition seen by Mr. I'Anson, except for the removal of many ruins and of an immense quantity of earth to fill up the back of the new quay wall. This earth has been removed by, and partly at the expense of, the villagers in order to get at the foundations of ancient buildings, which they dig up and export to Port Said, and even as far as Gibraltar. In places the ruined churches and surrounding property are perhaps somewhat endangered by excavations of as much as 12 to 15 feet over large areas. During the last few years immense quantities of this old stone have been exported at a rate of about 3s. per cubic yard. Much of it may

be considered as second- or third-hand building material, as in all probability it came originally from the ruins of the neighbouring Salamis. In this way probably more than half the ruins observed by Mr. I'Anson in 1881 have disappeared, and the inhabited portion of the town has somewhat diminished. The walls of the city facing the harbour have naturally suffered some modernising: three large openings have been cut through the curtain, and the end of a curious bastion which formed a protection to the ancient chain-gate of the port has been rebuilt together with the harbour mouth. The old iron chain which was formerly drawn across the mouth by a windlass in the bastion was fished up and thrown aside as old iron, but the present writer succeeded in rescuing it for the little mediæval collection preserved at Famagusta. Beyond filling up the ancient basin of the Venetian Arsenal the new railway has made but little difference in the external aspect of the city.

The Castle of Kyrenia has probably been considerably altered since 1878. In continuing it as a prison the English administration have necessarily rebuilt a great deal of the portions in use for the convicts, so that at the present time there is very little remaining of ancient work about it beyond the external walls of the sixteenth century and the empty mediæval shell which serves to support these immense masonry and earthwork curtains of early Venetian artillery fortification.

Mr. I'Anson considers the ecclesiastical architecture of Cyprus as the most interesting architectural feature. Of the three churches he mentions at Nicosia—the Cathedral, St. Nicholas, and St. Catherine—the first was completely repaired in 1903; but little damage was done beyond the removal of one or two pieces of very much decayed stone carving. This cathedral seems to have been considerably "restored" at an earlier period, to judge by the colour of the stonework in certain parts. The churches of St. Nicholas and St. Catherine (see below) have been completely untouched since 1881 but for some rubbishing iron railing, now all out of shape, round the former, and an ineffectual attempt to support the lintel of the doorway of the latter with iron bars.

The condition of the Famagusta churches will be referred to below, together with the Abbey of Bella Pais, all of which monuments naturally astonished the visitor of 1881.

Mr. I'Anson seems to have heard of the remains of a great many castles, but he can hardly have seen any such remains within Nicosia. Those he mentions near Larnaca must be the solitary towers of Pyla and Kiti, and the old Turkish fort of Scala, all of which are still untouched but for the stone pilfering to which the first two have been subjected. At Limassol an old fort on the sea shore seems to have been pulled down about ten years ago.

Mr. Sydney Vacher was evidently more attracted than Mr. I'Anson to the mediæval remains of Cyprus, and he seems to have visited the island with the express purpose of studying them. He gives an interesting description of Famagusta Cathedral and a very carefully drawn suggested restoration of the west front. The two south chapels are precisely in the state in which he saw them, but on the north side the ruins of the Bishop's Palace, which he describes as consisting of a large hall and adjoining chambers, have evidently been further destroyed since his visit. The very remarkably preserved row of shops which formed a *rez-de-chaussée* under the palace on the side of the street has diminished from nine to seven in number, and the curious staircase he describes as leading down to a crypt is now inaccessible. The loss of the mediæval shops is much to be regretted, as there are few so well preserved to be found elsewhere in the world; it is to be hoped the surviving ones may be saved from their threatening fate if possible. The coat-of-arms (family of Gibelet?) still survives over the centre of the group.

At the end of his notes Mr. Vacher refers to contemplated repairs to the Cathedral to be carried out by an English engineer. These "restorations" were presumably executed about 1884. The structural repairs no doubt were most advantageous, but the coarsely copied reproductions of fourteenth-century sculpture are not to be commended under the circumstances. It is not, however, very difficult to distinguish between the original work of the west front and the attempts to reproduce crockets, window tracery, &c., by modern hands. This restoration of 1884 may perhaps account for the disappearance of parts of the Bishop's Palace for the sake of the stone. The great west window, having been "restored," was filled with bright green glass of the "Cathedral" variety.

The large church on the south side of the above cathedral (Latin) is the completely ruined Greek "Metropolis." This ruin stands exactly in the state shown in Mr. Vacher's sketches (figs. 15, 16, 17, and 18), but it is now inclosed (see below). The church (figs. 20, 21), untouched since the English occupation, is still used as the principal tithe grain store. The church (figs. 22-25) is now known as "St. George of the Latins"; this ruin has been inclosed (see below).

Mr. I'Anson's sketch of a church (fig. 4) is that of "St. Anne's." According to this sketch it would appear that the building was at the period protected by the doorway being blocked. For some years past, however, this most perfect of all the ruined churches has been abandoned to the passers by, and its remarkable series of frescoes have not improved in consequence. It is difficult to identify the two churches shown in figs. 40-45, as no name is attached. As ruined rural churches

they may still be in existence, although the natives do not scruple to remove stonework under such circumstances; and during the last twenty-five years there has been a great deal of building of new churches all over Cyprus with the remains of ancient Byzantine and Gothic churches pulled down for the purpose.

Shortly after Mr. Vacher's visit to the magnificent ruin of the abbey of Bella Pais the wonderfully preserved refectory and some other portions were turned into a sort of hospital for the English troops. Windows and doors were probably made serviceable, and even at the present time some traces of wood frames are noticeable in out-of-reach windows. Nothing, however, in the way of "restoration" has ever been attempted, and it would seem that very necessary repairs are impossible owing to a contention as to the ownership of the ruins. The Government no longer keeps the place under lock and key, as appears to have been the case at the time of Mr. Vacher's visit—or at least the key is in the hands of the village priest.

Mr. Vacher's account of the churches of Nicosia is not perhaps so accurate as that of Famagusta, but the sketches (figs. 27 and 28)—which appear to be by Mr. T'Anson—are of interest as showing that many of the deformations of the Cathedral were prior to the English occupation.

The Armenian church of Nicosia has suffered a certain amount of "restoration" since Mr. Vacher's day, but on the whole of a conservative kind (see below).

The ancient castle of Kolossi—supposed to be the commandery of the Knights of Rhodes—is now the storehouse for silkworms belonging to the Eastern Colonial Association. Its present use does not seem to have involved any alteration in the structure since 1878.

The Papers read before the R.I.B.A. by Messrs. T'Anson and Vacher were of a very brief and altogether inadequate character, in so far as concerned their treatment of such important branches of art as the Byzantine and Gothic architectures of Cyprus. M. Camille Enlart confines himself to the monuments of the latter style, and is still engaged on the third large octavo volume of his great work. For the present purpose it is perhaps sufficient to enumerate all the monuments which he mentions in the two first volumes of "*L'Art gothique et la Renaissance en Chypre*," and to state what may have occurred to them during the ten years since M. Enlart's first visit to the island.

M. Enlart begins his account of the monuments of Cyprus with the Cathedral of St. Sophia, Nicosia. Since his visit the building has been subjected to a very complete repair by the delegates of Evkaf, who are the Government Commissioners for the administration of the affairs connected with the Moslem religion and charities. The delegates of Evkaf are two in number, one an Englishman, appointed by the English administra-

tion, the other a Moslem, appointed from Constantinople. As is usual with all the Christian buildings now used as mosques or schools, such repairs as have been made to features of an architectural or ornamental kind take the form of mere utilitarian substitutes, with little or no special character about them. In this way the delegates of Evkaf avoid to some extent any accusation of "restoration," and are in so far to be complimented on their good taste. The Cathedral may in fact be considered as in a fairly good state of conservation, and even less changed than many a European building of the kind which has been possibly "restored" more than once since the Middle Ages. The funds for such work as the present naturally come from the coffers of the Evkaf and are not subscribed either by the English Government or the people. The Cathedral was repaired in 1903.

Churches in Nicosia.

* 1. Referred to below under "Additional Notes for 1905."

* 2. Church of St. Nicholas (so called; in reality this was the Orthodox "Metropolis" of Nicosia, built chiefly in the sixteenth century). This church still continues in use as a grain store, and apparently nothing has been attempted, even in the most ordinary repairs, to preserve the building since the English occupation. It is now in a very dilapidated condition, and indeed, the south side may be considered dangerously beyond repair. The northern aisle, in which are now stacked an immense quantity of sculptured fragments from ancient buildings, is, however, a sufficiently substantial structure, and it is very much desired by many persons who have seen it that this northern aisle should be preserved to its present use as a small mediæval museum wherein the fragments of mediæval sculpture, &c., which come to light from time to time might find a final resting place.

* 3. Referred to below under "Additional Notes, 1905."

The churches marked * 4, * 5, * 6, * 7, * 8, and * 9 are practically untouched since M. Enlart's visit.

* 10. Supposed church of the Carmelites has been completely pulled down by the Evkaf, so that not a trace of it now remains. The materials were used up in the foundations of the new mosque built on the site in 1901.

* 11. Stavrotou missiricou.—This curious little church of the sixteenth century is untouched externally; internally it has received a new coat of plaster which covers over any decay noticed by M. Enlart in 1896.

Churches in Nicosia District.

* 1. Abbey of Morphou. This imposing monument of the sixteenth century remains in the state seen by M. Enlart.

* 2. St. Sozomenos. A ruin which probably still survives as in 1896.

* 3. Dali. This little church has been "restored," but without serious detriment to its very simple character.

District of Kyrenia. (Bella Pais and Secondary Churches.)

Bella Pais Abbey. This remarkable ruin, marvellously preserved through strange vicissitudes, has been untouched since the visit of M. Enlart. It has already been mentioned in Messrs. l'Anson's and Vacher's Papers. At present the priest of the village claims the property as belonging to the Orthodox Church.

1 and 2. Small churches rebuilt.

3. The monastery and ruins of Acheripiton. This most interesting group of buildings of the Middle Ages is still practically untouched. The tombstone of Alex. Flatros is still respected, and the curious narthex remains. The fine Gothic church near the sea appears unused, and is kept locked up.

4. A ruin of great interest untouched.

5. The splendid Byzantine church of Antifontissa is still untouched.

* 6. Monastery of St. Chrysostom. In 1898 this monastery with its two ancient churches was untouched. The new church was completed, but the ancient buildings were left to natural decay.

* 7. A monastery, paintings whitewashed.

Famagusta.

A large number of interesting fragments were noticed by M. Enlart in different parts of the town which he speaks of as belonging to churches which either suffered very much by the bombardment of 1571, or have completely disappeared. The present writer had the good fortune to be able to secure the use of a little medieval church—in a very intact state, having formerly served as a Turkish prison—for a museum wherein to shelter these derelicts. This little building is now kept for the purpose, and the Commissioner of Famagusta holds the key. All the fragments mentioned by M. Enlart, and illustrated in so many of his woodcuts, are now safely deposited in this Museum, and a very large number of additional items have been added to the list.

* 1A. Cathedral of Famagusta.—M. Enlart does not mention the restoration of 1884, which has already been referred to under Mr. Vacher's notes (p. 5). His description in fact gives an idea of the building being in a more perfect state than is really the case. It must be remembered that nearly the whole of the clerestory windows were destroyed by the bombardment of 1571, and are now replaced by brick screens (bricks laid with their ends on each other, so that small square openings are formed allowing light and air to pass) such as

are sometimes used in barns. The side aisles, west front, and such portions of the east end as remain are in a most shattered condition, far worse than the Cathedral of Nicosia.

The ruins of the Bishop's Palace, referred to by M. Enlart in vol. ii., are covered by a mass of fragments from the Cathedral (some of which have been housed in the medieval museum, but many more remain beneath the earth heaped on them which was removed from the roof of the Cathedral after the bombardment).

* 1 B. SS. Peter and Paul (M. Enlart's identification?). This building is still in a very untouched condition as the great grain store. It seems once to have been used as a mosque, but its present squalid walled-up state must be much older than the English occupation. It seems to have been kept in a fair structural condition for obvious reasons since its use as a grain store.

* 2. St. George of the Greeks, to be described below under Additional Notes, 1905.

* 3. St. George the Latin, to be described below under Additional Notes, 1905.

* 4. Franciscan Church.—This very interesting ruin may be considered the only ancient monument of which M. Enlart succeeded in securing a part permanently as a souvenir of medieval Famagusta at the time he was making some small excavations in the churches in 1901. The remarkable side chapel, with its altar and floor still covered with tombstones *in situ*, was surrounded with a rough wall provided with a wood gate and padlock at the expense of the Cyprus Government.

* 5. Carmelite Church.—This remains as M. Enlart left it. Here also the Cyprus Government put up a rough wall to screen off the east end with its armorial frescoes (Cyprus, Armenia, France, Normandy, England, &c.); but this wall has become slightly defective owing to persons clambering over it and disturbing the gravestones on the chancel floor.

* 6. St. Anne. In the same condition as seen by M. Enlart (see above).

* 7. (pl. xxx.). This curious little gem of masonry is now on private property.

* 8. Nestorian Church. Since M. Enlart's visit this church has been appropriated by the new Orthodox community which has sprung up in Famagusta since the harbour works commenced. It is a great pity that the Orthodox should have fixed on this particular building, because it was a quite unique monument of another branch of Christianity built in the best European Gothic manner of the fourteenth century. The frescoes with Syriac inscriptions were remarkably preserved.

The members of a church committee in such a case as the present can hardly be expected to view an ancient work of art in the last stage of decay in exactly the same way as antiquarian visitors from Europe will be likely to do. It is only natural that they should wish to see the building

"restored" in every sense of that word; and, as a consequence, this very interesting monument—perhaps unique in the world of its kind—is doomed to disappear. In Cyprus all buildings occupied by the orthodox church are the absolute property of the separate village communities.

* 9. Armenian Church.—Still as M. Enlart saw it. Frescoes a little more damaged perhaps.

* 10. Ruin, as in 1901.

* 11. Two churches, still used as stores; some slight utilitarian repairs, otherwise unchanged.

* 12. A mere site, from which the ruins seem to have been cleared away in recent years.

* 13. A fragment of a fine design, unchanged.

* 14. This ruin of an interesting character has been much jeopardised by the excavations referred to above in describing Famagusta.

* 15. Unchanged.

* 16. This little church, of a late Gothic style, remains unchanged.

* 17. A late Gothic building. The present writer was commissioned by Sir William H. Smith, late High Commissioner, to make a few repairs to the roof (rendering it watertight) and the windows, and to replace the three wood doors. The building is now under lock and key.

* 18. Still used as a grain store.

Churches of the Carpass and of Famagusta District.

* 1. These churches, mostly ruined, are probably in the same state as seen by M. Enlart. According to good information the remarkable church of the Pammia Katakaria, with its mosaics, pontifical throne, and other ancient features, remains in an untouched condition. The ancient Orthodox cathedral of the district has been rebuilt in a deplorable fashion: this seems to have been done shortly before the visit of M. Enlart.

* 2. St. Andrew's Monastery, apparently untouched.

* 3. Untouched.

* 4, * 5, * 6, * 7 and * 8. Untouched.

St. Napa.—In 1904 the villagers were building a new campanile on the top of the rock, within which is the curious sanctuary of this church. The remarkable fountain beneath a dome and the Renaissance front of the buildings did not seem threatened by any alteration.

Larnaca.

* 2. Abbey of Stavrovouno, apparently untouched since M. Enlart's visit.

* 3. Church of Stazousa; a ruin untouched.

* 4. Chapel of the Passion, Pyrga, now a stable.

* 5. The double church of Chiti, with its beautiful early Byzantine mosaic, is still untouched but for the deterioration of the mosaic through the thefts by visitors.

* 6. This church was being destroyed at the time of M. Enlart's visit.

* 7. Still untouched.

* 8. Probably still untouched.

Limassol.

* 1. The last fragment of the Latin cathedral disappeared in 1894.

* 2, * 3, * 4 and * 5. These most interesting monuments are probably untouched; they demand careful preservation.

Paphos.

M. Enlart's scanty references to the remains in this district relate to mere ruins, with the exception of the Franciscan church at Paphos, on the supposed site of St. Paul's flagellation. This building apparently remains untouched, to judge by recent photographs.

Tombstones of Cyprus (p. 482).

The various lists of these memorials made by different writers give an impression of their immense number in former times. Even so late as 1878 the Latin cathedrals and churches of Famagusta and Nicosia continued to be paved with them. Since then many have disappeared in course of "restoration," and they have been used wherever a flat slab of such a kind would be convenient. At Konkia, in Famagusta district, a rural bridge is paved with them, and the effigies of apparently a man and his wife on the remains of a large slab are now nearly effaced by the hoofs of donkeys. In Nicosia itself they have been used to cover over drains, and in fact wherever aqueducts or culverts can be conveniently repaired in such a manner there is a chance of finding fragments of such things. This is of course but a natural fate under the circumstances.

Of the specimens mentioned by M. Enlart the curious little memorial of Pertin, formerly in the church of St. Peter and St. Paul, has been placed by the present writer in the mediæval museum at Famagusta. The remarkable cover of a sarcophagus at Palourghiotissa remains, as M. Enlart saw it, in the courtyard of the village school exposed somewhat to damage. The unique and magnificent sarcophagus of the Dampierre family, carved in the fourteenth century out of a classic coffin, has been carefully installed in the mediæval collection at the Grain Store in Nicosia. The other tombs and fragments mentioned by M. Enlart are still preserved and in the same state as in 1901.

Civil and Military Architecture (p. 500).

The curiously well-preserved bridges which M. Enlart mentions and illustrates with his charming little sketches have unfortunately almost all been

removed since his visit. The bridge of Pyroi has almost quite disappeared, the materials having been used up in the neighbouring Jewish colony. The fine old bridge of Miselli was rebuilt at a lower gradient by the Public Works Department in 1902. Many of the mediæval cisterns at Famagusta still survive, although their stones are specially valuable for export. The same may be said of the fountains and other traces of the ancient water supply. The peasants are keeping them until the last.

The destruction of the fortifications of Nicosia is referred to above. This destruction had commenced before M. Enlart's visit, but since 1901 several new gaps have been made by the Municipality, and a desire is generally expressed for their complete removal, as they represent to the native mind a souvenir of foreign occupation. The three gateways of Venetian sixteenth-century style are still intact.

What appear to have been the remains of the Royal Palace of Nicosia (the *Konak* of Turkish times) were removed in 1904, leaving not a vestige behind. The site has been laid out as a garden, and the new Court House has been built in its centre. During this transformation the very interesting "flamboyant" window, with a well-preserved heraldic device beneath, which stood over the curious angle entrance to the palace courtyard, and the much mutilated Venetian Lion, were carefully taken down and removed to the Grain Store collection by the present writer. A considerable quantity of carved fragments in marble and stone were also secured during the demolition of the buildings. A portion of the great court arcade is represented by the column capitals of a curious style. The whole of this large building as seen and sketched by M. Enlart previous to 1899 has now completely disappeared.

The archiepiscopal palace of Nicosia, consisting of a number of buildings, now belonging to various private owners and mostly in a very ruined condition, remains as in 1901. The mitre has unfortunately been removed from a coat of arms over the doorway by a recent replastering of the front.

Of the various private houses sketched by M. Enlart most seem awaiting the fate of the ruin shown in fig. 338 which was pulled down in 1902 to build a stable with. The house in fig. 341 has been altered and the curious window destroyed.

The Castle of Kyrenia has already been referred to.

The Castle of Hilarion.—At the request of his Excellency Sir William Haynes Smith the present writer carried out the inclosure of this magnificent ruined monument. The holes in different parts of the walls were carefully repaired with masonry of the old stones, and the former archway of the Barbican was filled with a strong padlocked iron gate of prison-cell pattern. The only portion of

the ruins within the enceinte touched was the large roofless chapel of St. Hilarion and the passage outside it, from whence the earth and debris were removed to allow of a more convenient passage for visitors. This operation was carried out towards the end of 1903.

The castles of Buffavento and Kantara remain untouched.

Famagusta and its fortifications have already been referred to. The mediæval castle at the side of the port is still in exactly the same condition as in 1901, although a portion has been converted to the use of a Custom House for the new port, and some Turkish buildings within the enclosure were used as the offices of the Harbour engineers. The fragment of Renaissance architecture sketched by M. Enlart (fig. 377) is undisturbed: it is supposed to have been bought by an Englishman many years ago; but who its present owner may be is unknown. Near this fragment large excavations of earth took place in 1903-4, and many ruins have been removed.

Many of the ruins mentioned by M. Enlart as domestic buildings of interest have entirely disappeared.

The row of shops and other adjuncts of the ex-Cathedral forming the *rez-de-chaussée* of the Episcopal Palace remain as in 1901: they are mentioned above.

Famagusta possessed a royal palace of great importance; this was converted by the Venetians into a residence for the *Proveditore*. Since the English occupation the ruins of the mediæval palace have been used as a police station and stables, and the shell of the Venetian portion has remained untouched. A portion of the external wall has fallen during the past few years. The grand entrance of the Venetian palace remains unchanged, as does also the fine piece of masonry which Enlart suggests may be the "Palazzo della Regina" of Venetian times (p. 647). The latter being private property is doomed to disappear ere long.

The Tower of Pyla is still untouched. That of Kiti has recently been the subject of inquiry, and it is to be hoped further depredation is arrested. The tower of Alaminno still exists.

The Château or small fortress of Limassol is still used as a prison, but its surroundings have been recently improved. It now stands in the middle of a garden, and forms an agreeable feature in the town: its architectural character has not been altered.

The important monument, the Castle of Kolossi, is said to be now the property of the Eastern Colonial Association; it is at least in their tenancy. The magnificent square tower, with its interesting frescoed chambers, its curious fireplaces, and other details, seems cared for in a conservative spirit. Its chambers are still used as storerooms for silk-worm cultivation.

The foregoing notes have been made with the

object of recording the present condition of a great many of the most important monuments of this unique mediæval kingdom. The accounts of Messrs. l'Anson and Vacher were decidedly superficial, and the monograph of M. Enlart is confined to one phase of Cypriote art. To give an exhaustive statement of what the island contains in artistic treasures would involve the preparation of an inventory such as is usual at the present day in most civilised countries—an inventory prepared by Government acting as the trustee of public property. At present such an inventory is under consideration.

None of the visitors to Cyprus during the latter part of the nineteenth century seem to have paid much attention to the Byzantine churches which, until recently, must have formed the centres of every Christian village. During the past twenty-five years these always picturesque, if not always very artistic, buildings have probably been reduced in number by about two thirds if not more. A mania for destroying their ancient churches has seized the Cypriotes—a mania which may, however, be partly explained by the desire to provide jobs for the village masons. As a rule these old Byzantine churches were built in such a style of solidity and of such small proportions that no excuse on the score of instability could be urged for their destruction. In the majority of Cyprus villages nowadays the huge barn-like building covered with atrocious attempts at stone carving without style or appropriateness, and surmounted by a roof of red "French" tiles, offends the eye in a situation where some venerable little Byzantine church once stood. These monuments of flourishing agricultural districts are the only unfortunate results of the peace and plenty under the English administration.

It is to be hoped that some effort may be made to save the few remaining village churches and the mediæval monuments described by M. Enlart before they are all swept away as old materials for re-use in buildings of the modern Levantine style.

ADDITIONAL NOTES FOR 1905.

(1st January 1906.)

During the past year several attempts have been made to preserve the historical monuments of Cyprus on the part of the Government and also by private owners. At Famagusta the ruins of two churches have been inclosed, and in Nicosia two ancient churches have been restored and the last surviving fragments of the ancient Konak have been secured in a place of safety.

At the end of January the inclosure of the ruins of "St. George the Latin," Famagusta, was commenced. This is probably the ruin of the earliest church built in the city of the early fourteenth century, or possibly before the walls of Famagusta

existed, as it is one of the curious class of fortified churches. Its walls stand in a most miraculous manner in spite of earthquakes, bombardment, and the still more destructive effects of stone-pillaging by villagers in past years. The jagged holes made by stone-seekers and other threatening portions were built up, and the wall beneath the remarkable overhanging portion at the west end was replaced to some extent. All this required the greatest care, so as not to disturb loose stones or in any way interfere with the time-worn effect of the ruin. This work was carried out by a mason and four labourers under the direct oversight of the present writer, who devoted many days of watchful care to the work in order that nothing should be touched carelessly. At the same time the excavation of the immense mound of earth covering the south and west foundation walls of the ruin was proceeded with. These walls were fortunately found in a sufficiently sound condition to form the inclosure: they were heightened sufficiently by the addition of two courses of old stone from the debris. A strong and simple padlocked iron gate was placed within the outline of the former south door of the church. The interior is now clean and presentable to visitors. In the course of this excavation the curious discovery was made that this beautiful specimen of Gothic art is practically built out of the remains of some classic temple of the largest size. The circular drums of columns about 3 feet 6 inches in diameter may be seen wedged into the thickness of the fourteenth-century walls on every side. These column-drums have usually been cut into the delicate wall shafts on one side to suit their adaptation to the later style. See figs. 1, 2, 3, and 4 on the accompanying illustrations, p. 207.

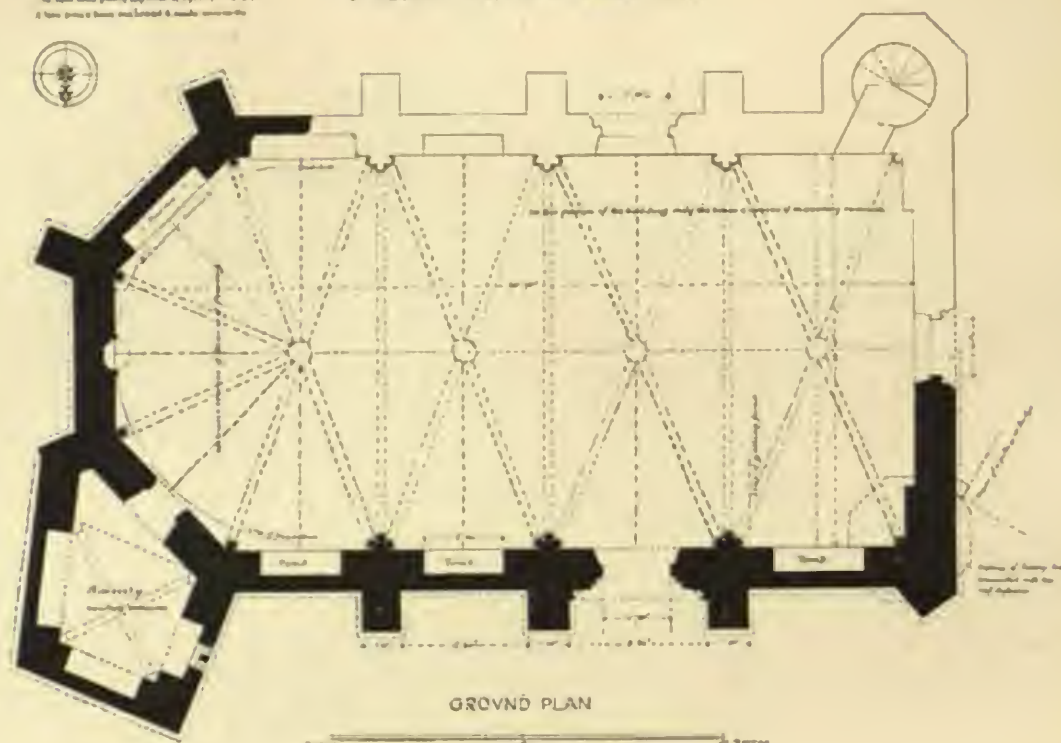
The sacristy of the church is still fairly preserved. Its vaulted ceiling is intact, and on it rests the earth which was placed to protect it from the Turkish batteries in 1571. A few repairs to threatening portions were executed, and the large aperture formed by stone-robbers filled up.

During the partial excavation of the church a very remarkable carved boss, which originally formed the key of the apse vaulting, came to light, and is now ranged with other fragments in the interior.

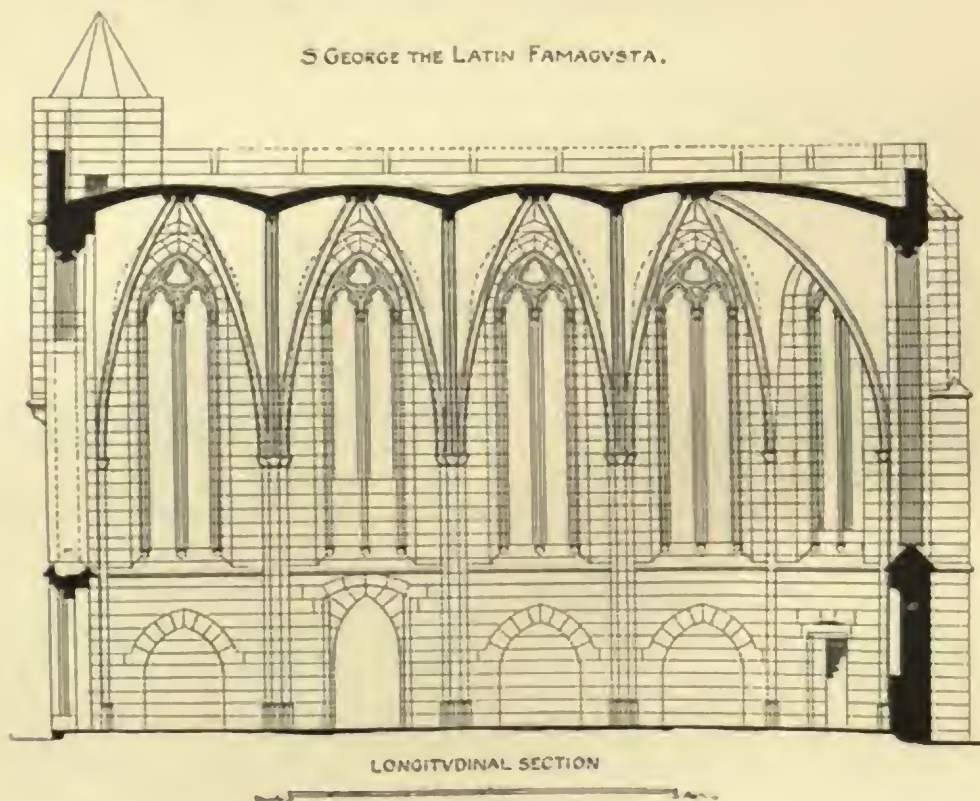
St. George of the Greeks (the so-called "Metropolis" or Cathedral of the Orthodox).—This immense church, with its small adjacent church, constitutes a mass of ruins, portions of which are apt to fall. In the winter of 1904-5 some small fragments of the south-west corner fell. The whole is now inclosed with a high wall towards the road, built out of debris, with a strong prison-gate, padlocked, in the same way as St. George the Latin. Trespassers can now neither injure the curiously preserved frescoes nor run the chance of injury from falling masonry. The little side church, now choked with fallen debris,

The plan was kindly supplied by Mr. E. L. Luard
of the Survey of the City of London & is hereby acknowledged.

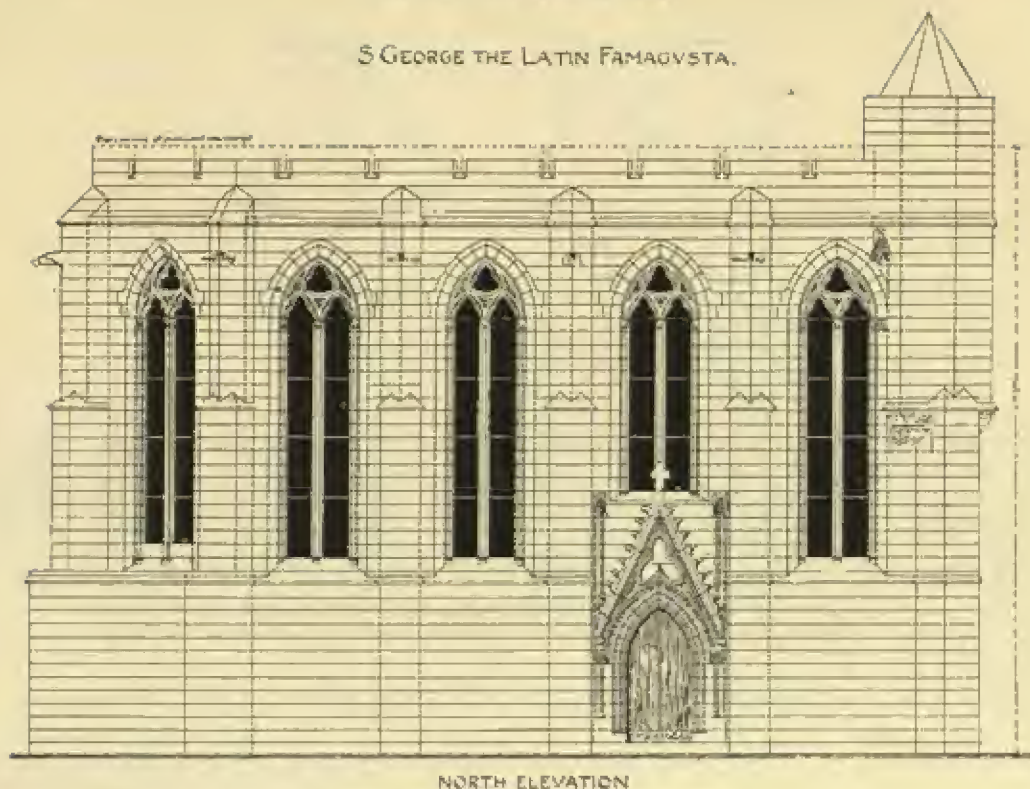
S GEORGE THE LATIN FAMAGUSTA.



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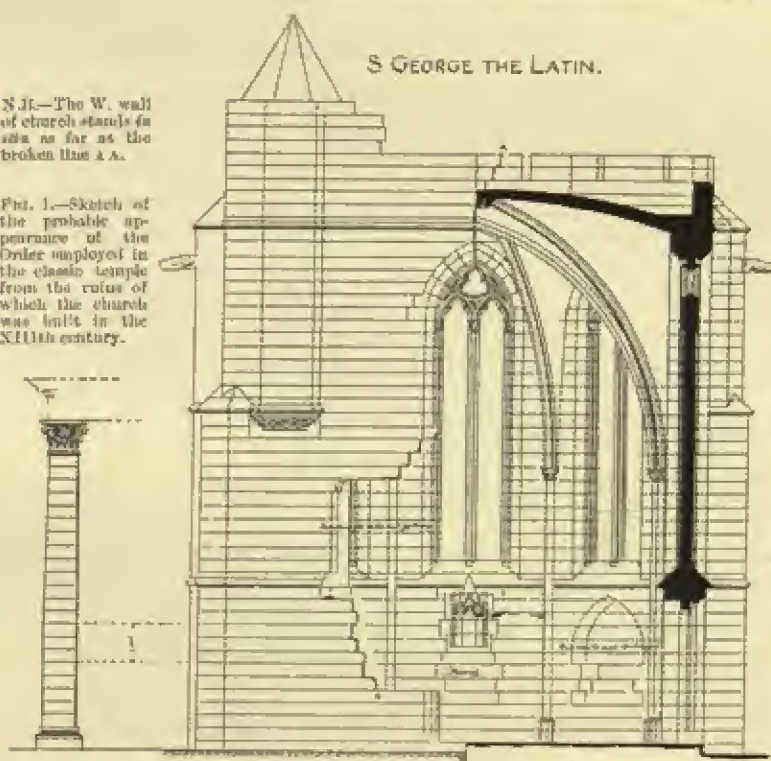


NORTH ELEVATION

S GEORGE THE LATIN.

N 16.—The W. wall of church stands in situ as far as the broken line A A.

FIG. 1.—Sketch of the probable appearance of the Order employed in the classic temple from the ruins of which the church was built in the XIIIth century.



HALF WEST ELEVATION

HALF CROSS SECTION



FIG. 4.—Classic column reduced to Gothic wall shaft.

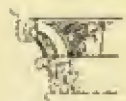


FIG. 3.—Fragment discovered 1908.



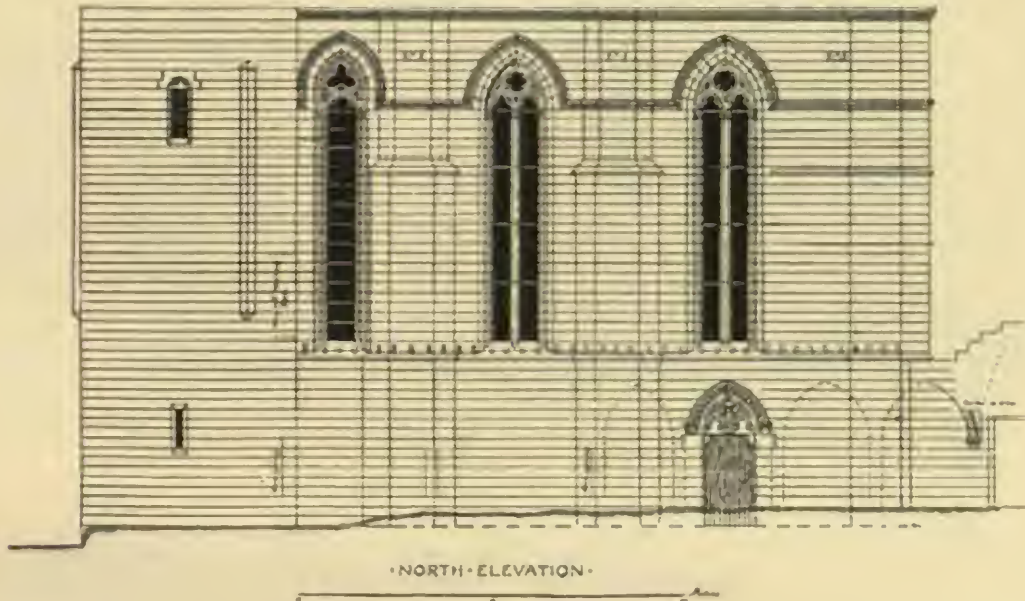
FIG. 2.—Method of employing drums of classic columns.

structive of its unique character as an almost untouched example of the mediæval style in Cyprus. In tearing off the internal plastering some traces of the mural decorations have come to light. The

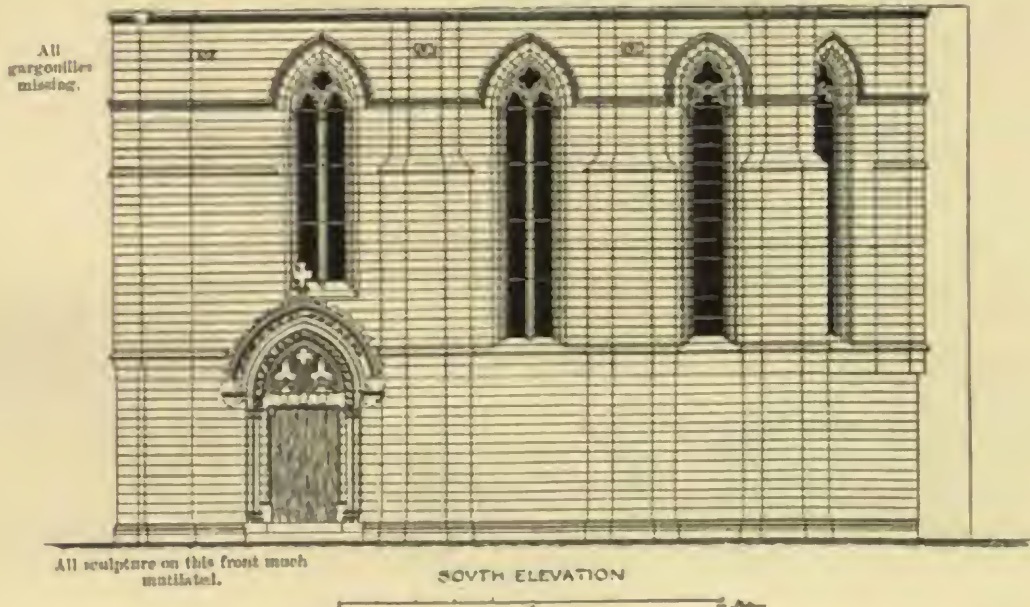
accompanying drawings of this church were made before the restoration.

These two churches of St. Catherine and St. George the Latin show by their detail the very

• S • CATHERINE • NICOSIA •



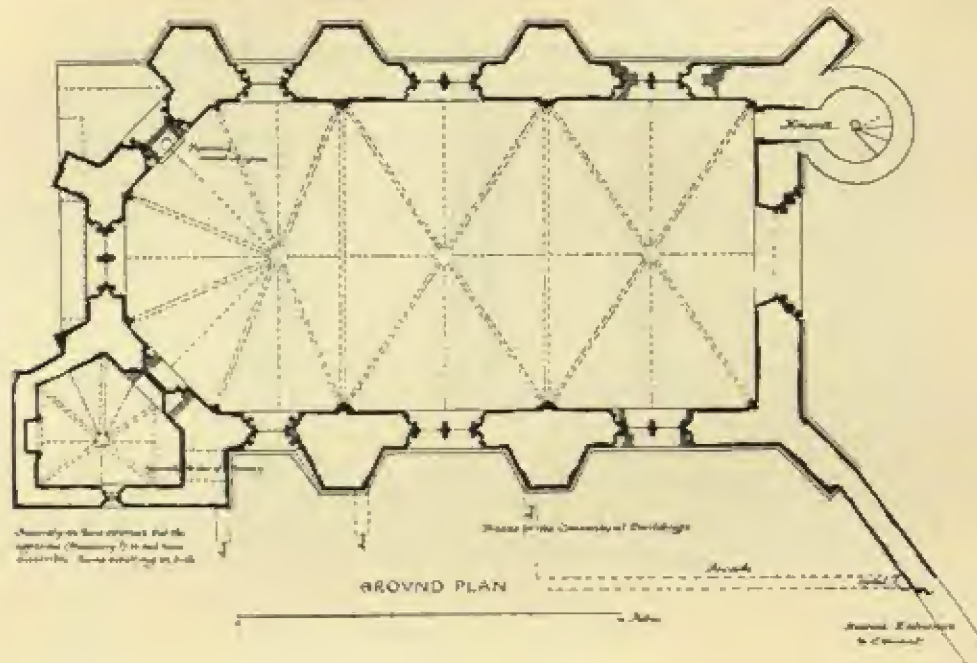
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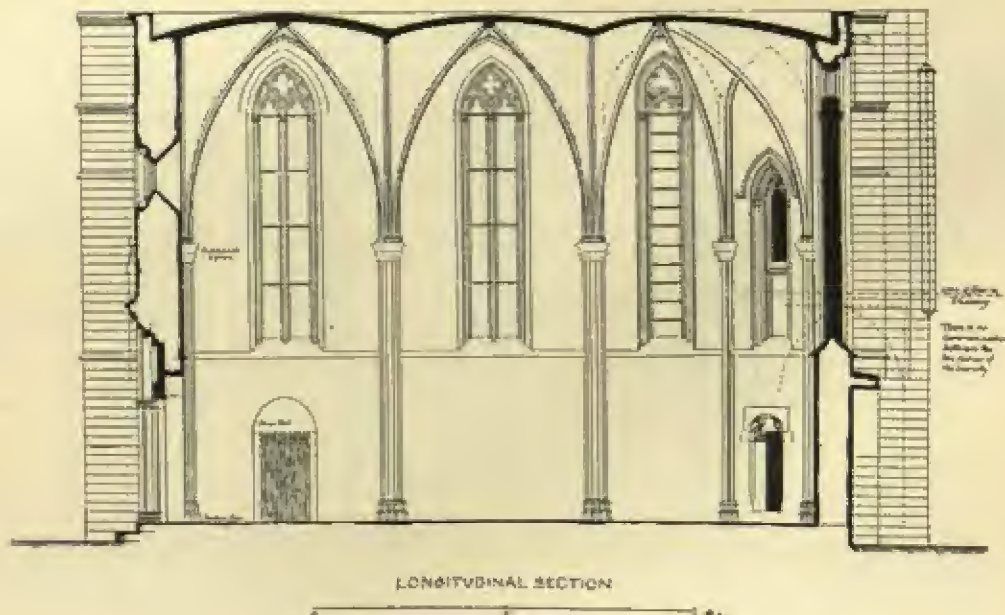
curious conservative character of Cyprus masonry. St. George the Latin was certainly built about the year 1300, and St. Catherine appears from the

late character of its carving to be certainly not older than 1450; yet with this difference in dates the masonry and the moulded work have a remark-

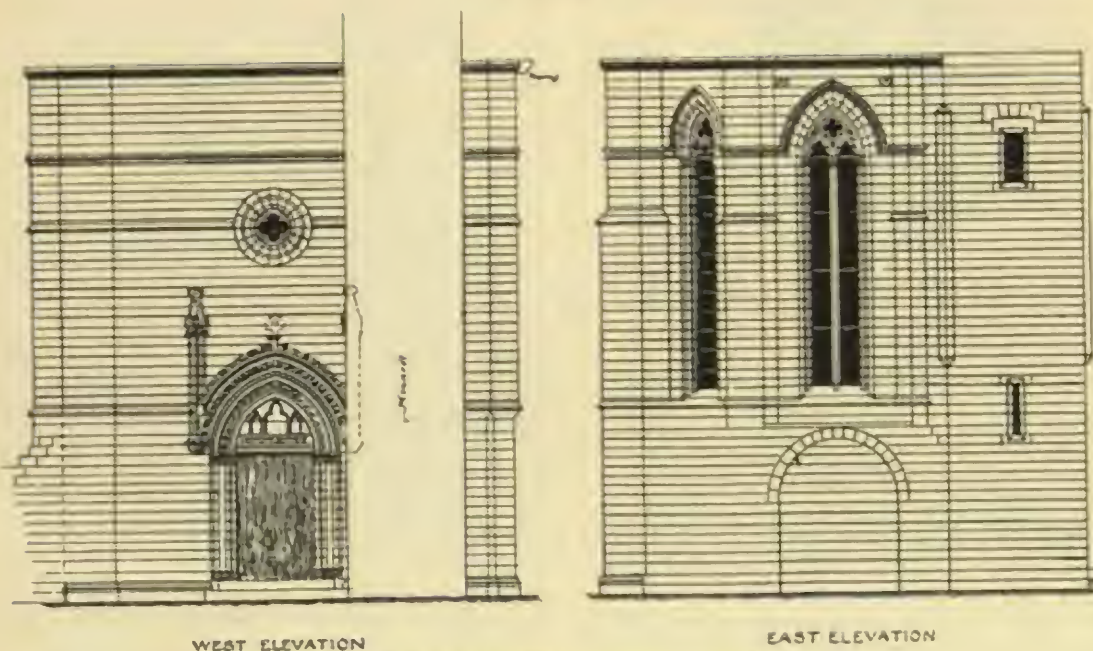
• S. CATHERINE • NICOSIA •



• S. CATHERINE • NICOSIA



S. CATHERINE · NICOSIA ·



WEST ELEVATION

EAST ELEVATION

able similarity in style. Both these churches have very much more the character of the "Neapolitan Gothic" than any other European style, in spite of M. Enlart's efforts to demonstrate the absolutely French origin.* The only incontestably French looking building in Cyprus is the Cathedral of Nicosia.

In conclusion a reference may be made to the

* The only authorities for the names of these two churches are as follows:—

The church now known as "St. George the Latin," or "of the Latins," Famagusta, is evidently represented on Gibellino's drawing of the siege (printed in Brescia, 1571). M. Enlart thinks the malformation of the end of the name "S. Giorgio" represents the three letters "Lat," and that the complete name should read "S. Giorgio Latino."

In a recently discovered MS. published by Menardos, Athens, 1906, is a description of the Turks occupying Nicosia and turning the church of St. Catherine, "which was the Bishop's church," into a mosque:—

‘Aylar Katerinayice, bāvuray vizenātur.

In describing the church as "the Bishop's" the writer probably refers to its position at the crossing of two streets which must have at that time formed the N.E. angle of the Archbishop's Palace garden. The traditional name for this church among the Christians is "Santa Catarina," although the Moslems have dubbed it "Haidar Pasha Mosque."

There was a church and convent of the Templars under this dedication in Nicosia, but of course the present building belongs to a period perhaps two centuries later than their time.

"Antiquities Law, 1905." This is a law which was evidently framed merely for the purpose of regulating the export of archaic remains, such as the contents of ancient graves and the objects found on the sites of very ancient temples. The monuments of Gothic art as public or private property are not specifically mentioned in it. Certain of its clauses might be interpreted to cover such monuments, but other clauses are evidently framed for the purpose of exempting such monuments when they belong to private owners. All cathedrals, churches, and mosques, as well as ecclesiastical ruins, are evidently private property in this sense, and their owners must therefore be approached without reference to this law, which is purely confined to questions of treasure-trove. It is the desire of the present writer and of most Europeans who visit the island of Cyprus that the memorials of the mediæval kingdom and the Italian occupation—in so far as they still survive—should be preserved; but it is very difficult to induce the natives of Cyprus to see anything more than heaps of old stones in such memorials, only fit for cutting down for modern purposes. There is certainly nothing else in Cyprus to attract the attention of the visitor: its scenery is second-rate compared with Italy or Greece, and its classic remains can be better studied in the Metropolitan Museum of New York or the museums of Constantinople, Florence, or Turin.



9, CONDUIT STREET, LONDON, W., 28th July 1906.

CHRONICLE.

THE MIDSUMMER EXAMINATIONS

Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held in London and the undermentioned provincial centres on the 12th and 13th June. Of the 257 candidates admitted, claims for exemption from sitting for the examination were allowed to the number of 63. The remaining 194 candidates were examined, with the following results:—

District	Number Examined	Passed	Relegated
London	95	66	29
Belfast	11	8	3
Birmingham	2	2	—
Bristol	7	4	3
Cardiff	7	2	5
Glasgow	2	2	—
Leeds	19	12	7
Liverpool	12	8	4
Manchester	25	17	8
Newcastle	14	8	6
	194	129	65

The passed candidates, with those exempted—numbering altogether 192—have been registered as Probationers. The following are their names and addresses:—

ABBOTT: Richard Atkinson; Auckland, New Zealand [Master: Mr. Chas. Arnold].
 ANDERTON: Richard; Carlton House; Moorland Road, Bournemouth [Aldenharn].
 ARBUCKLE: John Wiley; 32 Trevelyan Terrace, Antrim Road, Belfast [Master: Mr. Seed].
 ARMITAGE: Herbert Kelsall; 14 Manchester Road, Heaton Chapel, Stockport [Master: Mr. J. H. Woodhouse *].
 ASHFORD: Arthur Frank; "Sunnymead," Hoddesdon, Herts [Masters: Messrs. J. & W. Clarkson *].
 AUSTIN: Edgar Ross; 22 Tyndalls Park Road, Tyndalls Park, Bristol [Master: Mr. C. N. Thompson].
 AVERILL: Arthur Stileman; 69 Cromwell Street, Nottingham [Masters: Messrs. Brewill & Bailly *].
 BADCOCK: Paul. St. Brelades; Vicarage Road, Leyton [Master: Mr. Geoffry Lucas *].

BAIN: George; 61 Dee Street, Aberdeen [Master: W. E. Gauld *].
 BAKES: Leslie Harper; The Grove, Idle, Bradford, Yorkshire [Master: Mr. F. Munro *].
 BAREFOOT: Herbert John Leslie; 13 Wexford Road, Wandsworth Common [Dulwich College].
 BARLOW: George; 11 Alexander Grove, Longsight, Manchester [Masters: Messrs. J. W. Beaumont & Son *].
 BARNARD: Harold Thomas; 34 Ridge Road, Stroud Green, N. [Master: Mr. F. W. Roper *].
 BATH: Horace Randolph Hurle; Sandown House, Church Fields, Salisbury, Wilts [Master: Mr. F. Bath *].
 BEATTIE: Owen Keith; 8 Marchmont Road, Edinburgh [Masters: Messrs. Hendry & McLellan].
 BENISON: Norman Spencer; 22 Harrington Square, N.W. [Masters: Messrs. Benison & Bargman].
 BENNETT: Gwyn; 20 Darnley Road, Gravesend [County School, Gravesend].
 BERRY: Joseph Norman; The Elms, Park Drive, Huddersfield [Master: Mr. Joseph Berry].
 BEST: James Herschel; 68 Clifton Park Avenue, Crumlin Road, Belfast [Master: Mr. N. Fitzsimons *].
 BESTON: Sidney Francis; Melford House, 43 Upper Clapton Road, N.E. [Master: Mr. C. J. Harold Cooper].
 BISSHOFF: Edward Alfred Farnley; 32 Museum Street, Ipswich [Masters: Messrs. Bishopp & Cantley].
 BLACKFORD: Fred; 35 Summer Road, Edgbaston, Birmingham [Master: Mr. William J. Davis].
 BLOUNT: Edward Robert; c/o Miss Ellis, The Close, Sea View, near Ryde [Master: Mr. G. Boughton].
 BOTTOMLEY: Harold; The Wood, Millbrook, Studlybridge [Masters: Messrs. C. K. & S. C. Mayor *].
 BOX: William Reynolds; Eldon, Eldon Road, Eastbourne [Master: Mr. S. Box *].
 BOYD: James Stirling; 19 Waverley Gardens, Crossmyloof, Glasgow [Master: Professor Gourlay *].
 BROOME: William Tarrant; 3 McLeary Villas, Roslyn Gardens, Darlinghurst, Sydney [Master: Mr. G. Sydney Jones *].
 BROWN: William Alfred; Woodside, Pollard's Hill, North Norbury [Master: Mr. Alfred Burr *].
 BRUCE: John Angus; 26 Northumberland Square, North Shields [Masters: Messrs. Badenoch & Bruce].
 BUCKNELL: Leonard Holcombe; 33 Dunster Gardens, Brondesbury [Masters: Messrs. Hennell & Son *].
 BURGESS: Arthur; 31 Parkfield Road, Liverpool [Master: Mr. Henry Hartley *].
 CAMERON: John, Fairholme, Limes Avenue, New Southgate, N. [Master: Mr. W. West].
 CANTLEY: Charles Marshall; 20 Withipoll Street, Ipswich [Masters: Messrs. Bishopp & Cantley].
 CATON: William Cooper; 6 Waterloo Street, Hove, Sussex [Master: Mr. Thomas Garrett].
 CHAIKIN: Benjamin; 47 White Lion Street, Norton Folgate, E.C. [Master: Mr. M. E. Collins].
 CLARKE: John Moulding; Brentwood, Fulwood, Preston, Lancs.
 CLOUX: Frank Louis Whitmarsh; 66 Beckwith Road, Herne Hill [Masters: His Majesty's Office of Works].
 COATE: William Henry; St. Matthew's Vicarage, Luton, Beds [Masters: Messrs. Mallows & Grocock *].
 COLE: Walter Fishleigh; 3 Mildmay Place, Plymouth [Masters: Messrs. Thornely & Rooke].
 COLES: Walter; Wolston House, 14 Huddersfield Road, Barnsley [Master: Ernest W. Dyson].
 COLLIER: William Bradley; 45 Park Road, Blackpool [Master: Mr. Gorst].
 CONSTANTINE: Harry Courtenay; Hill House, Grafton Road, Acton [Master: Mr. Alfred Burr *].
 COOK: Sidney Thomas; Rusk House, Mount Gold Rd., Plymouth [Masters: Messrs. Thornely & Rooke].
 COSTLEY: Lewis; "Fountain-side," High Street, Monifieth, near Dundee [Masters: Messrs. Robert Keith & Son].

- COULTHARD: Joseph; Faugh Beeches, Heads Nook, Carlisle [Grosvenor College, Carlisle].
- COWPER: James Francis; 73 High Street, C.-on-M., Manchester [Master: Mr. John McD. McKenzie].
- CREAGH: Gordon Stewart; 54 Balmoral Road, Gillingham, Kent [Master: Mr. Herbert H. Dunstall *].
- CRONE: Harold Cartwright; 10 Ellerker Gardens Richmond, Surrey [Marlborough College].
- CRUTCHLEY: Frederick Ernest; "Linwood" 50 Orrell Lane, Alintree, Liverpool [Master: Mr. T. T. Rees *].
- CULLING: Percy Edwards; London Street, Swaffham, Norfolk [Masters: Messrs. Barret & Driver].
- DAILEY: Arthur Benjamin; 34 Finsbury Square, London, E.C. [Master: Mr. R. W. Holden].
- DAWBNEY: Frank Groves; 53 Palmer Park Avenue, Reading [Masters: Messrs. Millar & Cox].
- DEBOGOBY: Natalie Tehirpan, Bulgaria.
- DICKINSON: William John; 106 Whitehall Rd., Gateshead-on-Tyne [Masters: Messrs. L. H. & A. L. Armour].
- DOD: Francis Sandford; Park House, Paradise Row, Stoke Newington.
- DODDS: Archibald Kirkwood; Nunton Villa, Berwick-on-Tweed [Masters: Messrs. Henry & MacLennan].
- DOYLE: Graham; 77 Stackpool Road, Southville, Bristol [Masters: Messrs. Holbrow & Oaten].
- DUNCAN: Malcolm; 19 Belvidere Road, Princes Park, Liverpool [Master: Mr. M. Honan *].
- DURNFORD: William John; 125 Harvist Road, Queen's Park, W. [Master: Mr. Wonnacott *].
- EALLES: Charles George; 511 Anlaby Road, Hull [Grammar School, Hull].
- ERRINGTON: Lancelot Ralph Gawn; 3 York Terrace, Regent's Park, N.W. [Master: Mr. A. G. Bond *].
- FALLOON: Walter Adolphus Ritchie; 10 Ancona Road, Highbury, N. [Master: Mr. A. Dixon].
- FAREY: Cyril Arthur; 11 King's Gardens, West End Lane, Hampstead, N.W. [Architectural Association Day School].
- FELLOWS: Richard Woodhouse; Beeston Fields, Nottingham [Masters: Messrs. Calvert & Gleave].
- FORTESCUE: George Alan; "Fermain," Kenwick Road, East Putney, S.W. [Tonbridge School].
- FOWNES: Bruce; 11 Quarry Terrace, Hastings [Brassay Institute].
- FULFORD: John Harry; 3 Ardlin Road, Chestnut Road, West Norwood, S.E. [Master: T. B. Whinney *].
- GALE: Edward Trendell; 24 Burnt Ash Hill, Lee, Kent [Masters: Messrs. Todd & Wrigley].
- GEARY: Frank George; 25 Stamford Hill, London, N. [Architectural Association Day School].
- GISBY: Ernest Gisby; 26 Shrewsbury Road, Stafford [Master: Mr. J. Hutchings *].
- GUNN: Angus Roy; Clyth Lodge, Bushwood, Leytonstone, Essex [Master: Mr. John T. Lee *].
- HALSTED: Harry; 10 Palmer Street, Blackburn, Lancs [Master: Mr. Walter Stirrup *].
- HAMLIN: William Henry; White Swan Inn, Great Sutton, Cheshire [Master: Mr. R. Wynn Owen *].
- HARTMANN: Carl Herbert; Netherfield House, Weybridge, Surrey [Master: Mr. John Belcher, A.R.A. *].
- HECTOR: Alexander Ogilvie; Dunallan, Ferntower Road, Crieff [Morrison's Academy, Crieff].
- HEMINGWAY: Abraham; 109 Durham Road, Wimbledon. [King's College].
- HENNESSY: John Francis, Junr.; Selborne Street, Burwood, Sydney [Masters: Messrs. Sulman & Power].
- HICK: Norman Walker; 1 Belgrave Crescent, Scarborough [The Architectural Association Day School].
- HILLMAN: George Frederick; 24 Marquis Road, Stroud Green, Hornsey, N. [Master: Mr. Edgar Stones].
- HINCHLIFFE: Harold Eastwood; "Woodlands," Craggs Vale, Mytholmroyd, Yorkshire [Masters: Messrs. Walsh & Nicholas].
- HIPKINS: Frederick Wystan; The Rectory, Bamford, near Sheffield [Master: Mr. Charles Hadfield *].
- HODGSON: Hugh Astley; 7 Belmont, Oxtou Road, Birkenhead [Master: Mr. Armitage Rigby *].
- HOLDEN: Frank; 2 John Thomas Street, Hollin Bank, Blackburn [Master: Mr. H. S. Fairhurst *].
- HORSFALL: Leslie; Carrfield, Luddenden, S.O. Yorkshire [Hulme Grammar School].
- HOTZ: Roland; 23 Howland Street, W. [Master: Mr. G. L. Sutcliffe *].
- HOUSTON: William Wylie; Lenamore, Jordanstown, Whiteabbey, Belfast [Master: Mr. Thomas Houston].
- HOWKINS: Gilbert; The Elms, Crick, Rugby [Master: Mr. T. W. Willard].
- HOWLETT: Francis Henry; Ackworth Rectory, Pontefract [Master: Mr. Percy Green *].
- HOWROYD: John Wilson; 85 Sterling Street, Bradford, Yorks [Masters: Messrs. Fairbank & Wall].
- HUNT: Arthur Frederick; 16 Keyes Road, Cricklewood [Master: Mr. C. W. Reeves *].
- INGHAM: Arthur; Cliffe Street, Hebden Bridge [Masters: Messrs. Sutcliffe & Sutcliffe].
- IRVING: David Wishart; 41 Nelson Street, Crewe [Master: Mr. G. E. Bolshaw].
- JACKSON: Ralph; Clinton House, Kingsland, Shrewsbury [Masters: Messrs. A. B. & W. Scott-Deakin].
- JAMES: Thomas Stanley; 239 Bute Road, Cardiff [Master: Mr. G. A. Birkenhead].
- JENNER: Thomas Gordon; 3 George's Place, Bathwick Hill, Bath [Master: Mr. T. B. Silcock *].
- JENNINGS: Herbert Charles; All Saints Vicarage, Leyton, N.E. [Polytechnic School of Architecture].
- JENNINGS: Horace; 25 Shrewsbury Road, Harlesden, N. [Master: Mr. F. E. Williams *].
- JOHNSTON: Robert James; 78 Ditchling Rise, Brighton [Master: Mr. T. Garrett].
- JOHNSTONE: Matthew; "Bruceville," Goschen Road, Carlisle [Masters: Messrs. Johnstone Bros.].
- JONES: Thomas Edward; Terlyn, Port Dinorwic, R.S.O. Carnarvonshire [Carnarvon County School].
- JONES: William John; 14 Telford Avenue, Streatham Hill, S.W. [Architectural Association Day School].
- JUDGES: Wilfrid Harold; 15 Park Lane, Stoke Newington, N. [Masters: Messrs. Bartlett & Ross].
- KENDALL: William Jowett; 28 Clarendon Road, Leeds [Masters: Messrs. Jowett, Kendall & Son].
- KENNEDY: James; 1 Upper Vernon Street, Lloyd Square, W.C.
- KLUG: Maurice William Tufnell; 22 North Gate, Regent's Park, N.W. [Masters: Messrs. Elms & Jupp].
- KNIGHT: Frank Wardel; 29 Grove Road, Hitchin, Herts [Master: Mr. G. Lucas *].
- KRUCKENBERG: Frederick Lawrence; The Larches, Ichley, Yorkshire [Sedburgh School, Yorkshire].
- LAMBERT: Robert; "Beechcroft," Moorhead, Shipley, York [Masters: Messrs. Kay & Long].
- LANSDALE: Cecil Archer; 15 Birkbeck Road, Acton, W. [Master: Mr. J. Osborne Smith *].
- LAST: Frederick Bertram; "The Lindens," Harborne [Master: Mr. Gerald McMichael *].
- LAWSON: Frederick Henry; Nelthorpe, Gosforth, Northumberland [Masters: Messrs. Newcombe & Newcombe *].
- LAWSON: Philip Hugh; "St. Edian," Newton, Chester [Master: Mr. Samuel Joynson].
- LEESON: Arthur Edgerton; "Leaholme," Burnt Green, Worcestershire.
- LEGG: Theodore Ellis; "Tintern," Mornington Road, Woodford Green, Essex [Masters: Messrs. Warwick & Hall *].
- LEROY: Adrien Denis; 21 Gore Road, Victoria Park, London, N.E. [The Architectural Association Day School].

- LEVY: Herbert Reginald; 8 Harvard Court, West Hampstead, N.W. [Masters: Messrs. Kempson & Connolly].
- LODGE: Thomas Arthur; "Woodlands," Crookham, R.S.O., Hants. [The Architectural Association Day School].
- LONG: Charles William; "Rhodenhurst," Leigham Court Road, Streatham [Master: Mr. F. Wheeler *].
- LOWCOCK: Arnold; Poplar House, Dronfield, near Sheffield [Masters: Messrs. Smith & Emsor].
- LUCAS: William; 59 Weltje Road, Hammersmith, W. [Polytechnic School of Architecture].
- McCAUL: Dugald McFarlan; Cregganbarrook, Chislehurst, Kent [Tonbridge].
- MATHER: Thomas John; Rose Villas, Denbigh, North Wales [Master: Mr. W. J. Simcock].
- MATTHEWS: Ralph Edward; 52 Holyhead Road, Coventry [Masters: Messrs. Harrison & Hattrell].
- MOLIVER: Harry; 95 Green Street, Victoria Park, E. [Polytechnic School of Architecture].
- MORGAN: William Vanstone; Newton House, Unthank Road, Norwich [King Edward VIth Grammar School, Norwich].
- MORLEY: Francis Henry; 14 Lincoln Street, Leicester.
- MOSS: Harold Edward; St. Ayres, Brighton Road, Surbiton [University School, Hastings].
- NIXON: Ernest; 16 Fern Avenue, Jesmond, Newcastle-on-Tyne [Newcastle Modern School].
- OATES: Walter; Swires Cottage, Halifax, Yorks [Master: Mr. R. Berry].
- OWEN: Geoffrey; Cairo Street Chambers, Warrington [Masters: Messrs. William & Segar Owen *].
- PARKER: Alfred Thomas Hobman; 110 Southchurch Road, Southend-on-Sea [Masters: Messrs. Greenhalgh & Brookbank].
- PARKER: Wilfred; School House, Crabbs Cross, Redditch [The Birmingham Municipal Technical Day School].
- PARBOTT: Stanley Charles; 48 Stuart Street, Luton, Beds [Masters: J. R. Brown & Son].
- PATERSON: James; 6 The Avenue, Berwick on Tweed [Master: Mr. H. T. Gradon *].
- PECK: Arthur Edward; 18 Trajan Street, South Shields [Master: Mr. J. Walter Hanson].
- PEDDIE: George Smith; 25 Canarvon Street, Glasgow [Master: Mr. John Fairweather *].
- PETERS: Thomas James; 14 Hartington Street, Newcastle-on-Tyne [Masters: Messrs. Cockett & Burns Dick *].
- PONDER: Herbert Boulton; 40 St. Helen's Road, Hastings [University School].
- PORTER: Clarence William; 8 Boothroydon, Rhodes, Manchester [Master: Mr. G. H. Willoughby *].
- PRATTEN: Alfred; 57 Queen's Road, Reading [Masters: Messrs. Millar & Cox].
- PRICE: William Harold; 57 Wellington Road, Bridgewater [Masters: Messrs. Samson & Cottam *].
- PYWELL: William Jackson; Cumberland House, Hanwell, W. [Master: Mr. William Pywell *].
- REIVE: Thomas; Glencalro, Errwood Road, Levenshulme, Manchester [Master: Mr. Henry R. Price *].
- RHODES: Rowland Thomas; St. John's Road, Epping, Essex [Master: Mr. H. Tooley *].
- RICHARDS: Archibald Ivor; Crawshaw Villa, Yon Centre [Master: Mr. T. E. Richards *].
- ROBERTS: Norman Vincent; 33 Abingdon Street, Bradford [Master: Mr. Wilson Bailey].
- ROBINSON: Harold Leyton; 9 Clitheroe Road, Clapham [Masters: H.M. Office of Works].
- ROGERS: John Charles; The Drive, Oatlands Park, Weybridge [Master: Mr. G. Harvey *].
- ROSTRON: Richard; 57 Alma Road, Birkdale, Southport [Seaside College].
- ROUGHLEY: Edward; 18 Elephant Lane, Shatto Heath, St. Helen's, Lancs [Master: Mr. J. A. Baron].
- BOWNTREE: Douglas Woodville; 11 Hammersmith Terrace, W. [Architectural Association Day School].
- ROWSE: Herbert James; "Oakdene" Moor Lane, Crosby, Liverpool [Master: Professor C. H. Reilly *].
- ROYLE: Gordon; 17 Cooper Street, Manchester [Masters: Messrs. Royle & Bennett *].
- RYCROFT: Ernest Charles; "Kewstoke" Warwick Road, Thornton Heath [Thornton Heath School].
- SAUNDERS: Harry Francis; "Craythorne," St. Mildred's Road, Margate [Architectural Association Day School].
- SHACKLETON: William; 139 Southfield Lane, Great Horton, Bradford [Master: Mr. Rhodes Calvert *].
- SHERREN: Stanley White; 14 Alexander Road, Croydon [Master: Mr. Frank Windsor].
- SHOOSMITH: Arthur Gordon; Hailey House, Haileybury College, Hertford [Haileybury College].
- SHRUBSALL: Douglas George; 161 Tulse Hill, S.W. [Master: Mr. H. P. Monckton *].
- SILK: Frederic Albert; 47 Devonshire Street, Portland Place, W. [Architectural Association Day School].
- SMITH: Edwin; 35 Nene Parade, Wisbech, Cambs [Master: Mr. F. Burdett Ward].
- SMITH: Fred Noble; 5 Hardy Street, Nottingham [Master: Mr. Arthur Marshall *].
- SOUTHCOTT: Henry Frederick; 330 Riley Street, Surrey Hills, Sydney [Master: Mr. G. Sidney Jones].
- STAFFORD: James Nielson Greenless; Clovelly, Russell Road, Moor Green, Birmingham [Tonbridge School].
- STANTON: Samuel Joseph; 46 Owen Street, Tipton, Staffs [Master: Mr. Matthew J. Butcher].
- STRICKLAND: Harley Clarence Victor; 65 Ringmer Avenue, Fulham, S.W. [Master: Mr. John Saxon Snell].
- SUTCLIFFE: Eric John; 5 Lee Mill Road, Hebdon Bridge, Yorks [Master: Mr. A. W. Reith].
- SUTCLIFFE: Hartley; 4 Airedale Crescent, Otley Road, [Bradford Technical College].
- SWANNELL: Charles Mudecum; 4 Delaporte Gardens, Muswell Hill [Master: Mr. A. W. Cooksey *].
- TANNER: Edwin John; "Rothbury," Brackley Road, Beckenham [Architectural Association Day School].
- TAYLOR: Aubrey George; 12 Durlston Road, Kingston-on-Thames [Master: Mr. Walter E. Tower].
- THOBP: Frederick; 87 Southbank Road, Southport [Master: Mr. Goodwin S. Packer].
- TIFFEN: John Hall; 142 Warwick Road, Carlisle [Grosvenor College].
- TODD: Charles Bernard; 52 Berkeley Street, Hull [Hull Grammar School].
- TOONE: Aubrey Alfred Gifford; 228 Plymouth Grove, C-on-M., Manchester [School of Technology].
- TRANMER: Frank; 41 Candler Street, Scarborough [Master: Mr. Charles Edeson].
- TREGELLES: Nathaniel; Hoddesdon, Herts [Master: Mr. J. A. Tregelles].
- TRICKER: Albert Charles; "Dalmeny," Brighton Road, Surbiton [Masters: Messrs. Carter & Ashworth *].
- TURNER: Augustus Hermon; Prospect House, Caversham, near Reading [Master: Mr. James Haslam].
- TYSON: George Alfred; 20 Grosely Street, Liverpool Road, N. [Masters: Messrs. Griffin & Woollard *].
- UNDERWOOD: Sidney Francis Gilbert; Dartford Road, March, Cambs [Master: Mr. F. Burdett Ward].
- VOYSEY: Charles; "The Orchard," Chorley Wood, Herts [King Alfred School].
- WALKER: Frank William; 26 Wilfred Street, Derby [Masters: Messrs. Naylor & Sala *].
- WALLER: Walter; "Stodleigh," Kensington Road, Barnsley [Masters: Messrs. A. Neill & Son].
- WARD: Frank Raymond; Perry Street, Wednesbury, Staffs [Master: Mr. A. J. Dunn *].
- WATTS: Arthur; 107 Upper Brook Street, Manchester [Master: Mr. T. B. Day].

WEBB: Philip Edward; 1 Hanover Terrace, Ladbroke Square [Architectural Association Day School].
 WEBSTER: Percy James Dussek; 38 Wickham Road, St. Johns, S.E. [Architectural Association Day School].
 WEINBERG: Judah; 85-89 Lolesworth Buildings, Commercial Street, E. [Polytechnic School of Architecture].
 WHITELEY: Charles Taylor; 10 Hall Road, Shipley, Yorks [Master: Mr. Rhodes Calvert *].
 WIGHTMAN: Thomas Blair Mouciet; 20 Percy Street, Paisley Road, W. Glasgow [Masters: Messrs. Thomson & Sandilands].
 WILLCOCKS: Conrad Birdwood; "Willstead," Matlock Rd., Caversham, Oxon [Master: Mr. W. G. A. Hambling].
 WILSON: Herbert; Bromfield Terrace, Tudestow [Masters: Messrs. Bromet & Thorman].
 WOOD: Wallace; "The Lindens," West Bromwich, near Birmingham [Masters: Messrs. Wood & Kendrick].
 WORSSAM: Cecil; c/o E. Beevor, Esq., Aldenham School, near Elstree, Herts [Aldenham School].

The asterisk (*) denotes Members of this Institute.

Intermediate.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and the undermentioned provincial centres on the 12th, 13th, 14th, and 15th June. One hundred and fifty-six candidates were examined, with the following results:—

District	Number Examined	Passed	Relegated
London	98	50	48
Belfast	1	1	—
Bristol	12	6	6
Glasgow	4	3	1
Leeds	15	5	10
Manchester	21	8	13
Newcastle	5	3	2
	156	76	80

The passed candidates, who have been registered as Students, are as follows, the names being given in order of merit as placed by the Board of Examiners:—

HANTON: Peter Kydd [Probationer 1905]; c/o Mr. E. Harding Payne, 11 John Street, Bedford Row [Master: Mr. E. Harding Payne *].
 BEARE: Josias Crocker [Probationer 1906]; Stanmore, Newton-Abbott [Master: Mr. T. H. Andrew].
 BUSH: Frederick Thwaites [Probationer 1904]; 33 Grasmere Road, Muswell Hill, N. [Master: Mr. R. G. Hammond].
 WATT: John Douglas Dickson [Probationer 1902]; Victoria Villa, Falkirk, N.B. [Master: Mr. James Strang].
 GRIEVE: James [Probationer 1904]; 2 Eldon Terrace, Bradford, Yorks [Master: Mr. F. E. P. Edwards *].
 HAMPSON: Joseph Louis [Probationer 1899]; 360 St. Helen's Road, Bolton [Masters: Messrs. Bradshaw & Goss *].
 BRADFORD: Horace Henry [Probationer 1903]; 1 Lysias Road, Nightingale Lane, Clapham Common, S.W. [Masters: Messrs. St. Aubyn & Wadling *].
 CHARLES: Herbert Leslie [Probationer 1903]; Governor's House, H.M. Prison, Hereford [Master: Mr. W. W. Robinson].
 BRYAN: Arthur Francis [Probationer 1902]; c/o W. M. Cowdell, 12 Grey Friars, Leicester [Master: Mr. W. M. Cowdell].
 EMDEN: William Samuel Alfred [Probationer 1904]; 21 Antrim Mansions, Hampstead, N.W. [Master: Mr. W. Emden].

CALDWELL: Robert Whitelaw [Probationer 1897]; 317 Onslow Drive, Glasgow [Master: Mr. Donald A. Matheson].
 COLVILLE: David [Probationer 1905]; 179 Rosemount Place, Aberdeen [Master: Mr. Arthur Clyne *].
 ADAMS: Percy Tidswell [Probationer 1900]; 34 Cantlowes Road, Camden Square, N.W. [Masters: Messrs. Niven & Wigglesworth *].
 BARTHOLOMEW: Benjamin Vincent [Probationer 1906]; 21 East Avenue, Walthamstow [Master: Mr. A. G. Bond *].
 ORR: Robert [Probationer 1890]; Poulner Road, Ringwood, Hants [Master: Mr. W. J. Fletcher *].
 HOSKING: Thomas Stanley [Probationer 1904]; 68 Coronation Road, Bristol [Masters: Messrs. La Troite & Weston *].
 WHITTAKER: Thomas Herbert [Probationer 1903]; 15 Trent Boulevard, West Bridgford, Nottingham [Masters: Messrs. Hensell & Sons *].
 MURRAY: Colin Hay [Probationer 1902]; 7 Hillmarton Road, Camden Road, N. [Master: Mr. W. H. Murray].
 RIGG: William Arthur [Probationer 1903]; 1 Oxford St., Carnforth, Lancs. [Master: Mr. G. A. T. Middleton *].
 MITCHELL: William Henry [Probationer 1901]; The Firs, Irlam Road, Sale [Master: Mr. R. J. McBeath].
 WRIGLEY: Harold Lawson [Probationer 1903]; Wollescote Parsonage, Stourbridge, Wores. [Master: Mr. T. G. Price].
 STOCKTON: Russell [Probationer 1901]; 27 Hamilton Street, Heaton Norris, Stockport [Master: Mr. William Swann].
 PELLING: Arthur Fawcener [Probationer 1903]; 68 Gillesgate, Durham [Master: Mr. W. Crozier].
 ROSE: Charles Holland [Probationer 1904]; Elandune, Parkside Gardens, Wimbledon, S.W. [Master: Mr. J. Slater *].
 MANNOCH: Theodore Charles [Probationer 1904]; 14 Cavendish Place, W. [Master: Mr. W. Henry White *].
 RAINGER: Herbert Thompson [Probationer 1901]; 9 Batt Place, Cheltenham [Master: Mr. P. W. Waller *].
 MILLS: William Sted [Probationer 1905]; 18 Alexander Road, Leicester [Master: Mr. Walter Brand *].
 JENKINS: Albert Henry Hopkin [Probationer]; Junction Hotel, Blackmill, nr. Bridgend, Glamorgan.
 WALTON: Leonard Webb [Probationer 1903]; c/o Arthur Marshall, King Street, Nottingham [Master: Mr. Arthur Marshall *].
 JEFFREY: John McNee [Probationer 1904]; 25 Denbigh Place, Pimlico, S.W. [Master: Mr. E. V. Harris *].
 WILSON: William Hardy [Probationer 1904]; 14 Margaretta Terrace, Chelsea, S.W. [Master: Mr. W. Flockhart *].
 WOODIN: Walter Edgar [Probationer 1904]; 11 Thornsett Road, Anerley, S.E. [Master: Mr. A. W. Cooksey *].
 MADELEY: Charles Stanbury [Probationer 1904]; 109 Aston Lane, Perry Barr, Birmingham [Master: Mr. Arthur McKewan *].
 AISH: Clifford Augustus [Probationer 1905]; Rosemount, Fairfield West, Kingston-on-Thames [Master: Mr. G. F. Story].
 WILSON: Ralph [Probationer 1904]; 17 Cressingham Road, Lewisham, S.E. [Masters: Messrs. T. Dinwiddy & Sons *].
 KIPPS: Percy Kingsford [Probationer 1904]; 98 Lewisham High Road, S.E. [Master: Mr. Edwin T. Hall *].
 DICKMAN: Harry Alderman [Probationer]; 20 Burton Square, Sherwood, Notts [Master: Mr. W. D. Pratt].
 WINGROVE: George Christopher [Probationer 1904]; 5 Queen's Road, Newcastle-on-Tyne [Masters: Messrs. Cackett & Burns Dick *].
 SHEATH: Albert George [Probationer 1905]; 63 Royal Parade, Eastbourne [Masters: Messrs. Oakden & Hawker].

- ARNOTT: Charles Dudley [Probationer 1905]; Seacroft, The Cliffs, Gorseston-on-Sea [Master: Mr. H. Dudley Arnott].
- MATTISON: Malcolm Deane [Probationer 1903]; 20 Derby Road, Weaste [Master: Mr. Arthur Mattison].
- SCRIVENER: Alwynne Twyford [Probationer 1902]; The Mount, Endon, Stoke-on-Trent [Masters: Messrs. R. Scrivener & Sons].
- PIERCE: Robert [Probationer 1904]; Moss Cottage, Llanfairpwll, Anglesey [Master: Mr. Harold Hughes*].
- MATTHEWS: Harold Ewart [Probationer 1904]; Llan-vair, The Avenue, Yeovil [Master: Mr. C. B. Benson].
- BURTINGHAM: Alfred Claude [Probationer 1904]; Bossyvera, Evesham [Masters: Messrs. Mansell & Mansell].
- MURRAY: Robert Howson [Probationer 1902]; Shadowbush, Norbury, S.W. [Master: Mr. R. C. Murray].
- CARTER: John William [Probationer 1903]; 47 Church Street, Rugby [Master: Mr. Lindsay].
- HALLATT: Charles Arnold [Probationer 1905]; "The Elma," Wath-on-Dearne, near Rotherham [Master: Mr. H. J. Potter*].
- DAFT: William Austin [Probationer 1903]; 37 Jenne Road, Oxford [Master: Mr. S. Stallard].
- SCOTT: James Maxwell [Probationer 1904]; 3 Holywood Road, South Kensington, S.W.
- EDGAR: Thomas [Probationer 1904]; "Almora," North Road, Bloomfield, Belfast [Master: Mr. F. H. Tulloch*].
- BOWNASS: James Everett [Probationer 1904]; 37 Upper Gloucester Place, Dorset Sq., N. [Master: Mr. Stokes*].
- D'ARCY BRADDELL: Thomas Arthur [Probationer]; 28 York Street, Portman Square, W. [Master: Mr. Ernest George*].
- BRADFORD: George Sidney Herbert [Probationer 1903]; 2 Gloucester Street, Warwick Square, S.W. [Master: Mr. A. G. Bond*].
- CAMPKIN: Dudley James [Probationer 1903]; St. Moritz, Mulgrave Road, Sutton, Surrey [Master: Mr. George Elkington*].
- COCKRILL: Gilbert Scott [Probationer 1901]; P.O. Chambers, Gorseston, Gt. Yarmouth [Master: Mr. W. B. Cockrill].
- COOPER: Archibald [Probationer 1901]; 18 Hencroft Street, Slough, Bucks [Master: Mr. T. B. Whinney*].
- COULDREY: Walter Norman [Probationer 1903]; 3 Burnbury Road, Balham, S.W. [Masters: Messrs. Edmeston & Gabriel*].
- DAVIS: Claude William [Probationer 1902]; 288 Pershore Road, Edgbaston, Birmingham [Masters: Messrs. Crouch & Butler*].
- DUCKETT: Richard [Probationer 1902]; 24 Chapel Walks, Preston [Master: Mr. J. H. Mangan].
- ELKINGTON: Hylton Basil [Probationer 1903]; Norfolk House, Laurence Pountney Hill, E.C. [Masters: Messrs. Elkington & Son*].
- FIDDAMAN: William Alfred Martin [Probationer 1903]; Alkerton, 17 S. Norwood Hill, S.E. (King's College).
- FITZGERALD: George Edmonds [Probationer 1905]; 29 Tyrwhitt Road, St. John's, S.E. [Architectural Association].
- FOSTER: Edward Harold [Probationer 1903]; North Field, Thorne, Doncaster [Master: Mr. J. M. Dossor*].
- GWYNNE: Gordon Kydd [Probationer 1901]; St. Kilda, Waverley Road, Bournemouth [Master: Mr. G. A. Blyth Livesey*].
- HAYNES: Richard Evered [Probationer 1903]; College Court, Shrewsbury [Master: Mr. D. Lewis].
- KAY: Albert [Probationer 1903]; 145 Broad Street, Fendleton, Manchester [Master: Mr. John Holu].
- MAXWELL: Francis John McCallum [Probationer 1905]; 91 St. Alban's Avenue, Bedford Park, London, W. [Master: Mr. T. F. Green].
- MURRAY: Andrew Farquharson [Probationer 1900]; 9 Marlboro Hill, St. John's Wood, N.W. [Master: Mr. T. J. Bailey*].
- TIPTON: William Winnall [Probationer 1903]; Hill Crest, Wellington, Salop [Master: Mr. A. G. Bond].
- TURNBULL: Albert [Probationer 1904]; 1 The Oaks, Sunderland [Masters: Messrs. W. & T. R. Milburn*].
- WARE: Vivian [Probationer 1902]; 83 Richmond Wood Rd., Bournemouth [Masters: Messrs. Hawker & Mitchell].
- WHEATLEY: Joseph Horace Lineham [Probationer 1902]; 10 St. Peter's Road, Petersfield, Hants [Master: Mr. W. F. Unsworth*].
- WILBY: Albert [Probationer 1902]; 21 Aden Grove, Stoke Newington, N. [Master: Mr. A. G. Bond].
- WRIGHT: Edward Leslie [Probationer 1903]; 13 Maryiek Road, Stafford [Master: Mr. T. Wright].
- YEOMAN: Guy Hemingway [Probationer 1903]; Shrobery Road, Streatham [Master: Mr. A. Keen*].

The asterisk (*) denotes Members of the Institute.

Final.

The Final and Special Examinations, qualifying for candidature as Associate R.I.B.A., were held in London from the 22nd to the 29th June. Of the 112 candidates examined, 61 passed, and the remaining 51 were relegated to their studies. The successful candidates are as follows:—

- BAMFORD: Dennis [Probationer 1902, Student 1903]; 9 Faraday Mansions, Queen's Club Gardens, West Kensington, W.
- BAMFORD: Frederick Noel [Probationer 1904, Student 1904]; 7 Trevor Square, Knightsbridge, S.W.
- BLACKADDER: Henry [Probationer 1900, Student 1904]; Edrom, Broughty Ferry, W. Scotland.
- BRAY: Arthur George [Probationer 1901, Student 1905]; 10 Bradford Avenue, Bolton.
- BROOKER: Albert Edward [Probationer 1898, Student 1902]; Durlstone, Brockley Park, Forest Hill, S.E.
- BULLOCK: Archibald [Probationer 1902, Student 1903]; 99 Amesbury Avenue, Streatham Hill, S.W.
- CALTHROP: William Wellesley James [Probationer 1901, Student 1904]; 17 The Caneway, Horsham.
- COALES: Harry Reginald [Special Examination]; Bridge Street, Leatherhead.
- COCKRILL: Owen Handworth [Probationer 1899, Student 1902]; 12 Euston Road, Great Yarmouth.
- COLLINGS: Tilleard Horace Osman [Probationer 1895, Student 1904]; 10 Lower Rock Gardens, Brighton.
- COOKE: William Henry Howard [Probationer 1901, Student 1902]; "Homefield," Wembley, Middlesex.
- COSWAY: Reginald Wentworth Alfred James [Probationer 1896, Student 1901]; 68 Buckingham Gate, S.W.
- DAWSON: Matthew James [Probationer 1900, Student 1905]; 151A Gloucester Road, S. Kensington, S.W.
- DOWNS: Harry Beecroft [Probationer 1901, Student 1904]; Shaw Side, Guiseley, Yorks.
- EATON: Charles William [Probationer 1901, Student 1903]; 69 Hawthorne Road, Deane Bolton.
- EDLESTON: Ernest Harcourt [Probationer 1899, Student 1902]; Dysart Buildings, Nantwich.
- FARRAR: George Arthur [Probationer 1900, Student 1902]; 21 Richmond Road, Chorlton-cum-Hardy, Manchester.
- FITZGERALD: Francis Henry [Special Examination]; 69 Geraldine Road, Wandsworth.
- FORSTER: Frank Jamieson [Probationer 1897, Student 1901]; 81 Cromwell Road, Wimbledon.
- FOSTER: Frank Burwell [Probationer 1901, Student 1902]; Ardinglye, Grove Park Road, Weston-s.-Mare.
- FULTON: James Black [Special Examination]; 14 Bedford Row, London, W.C.
- GANDY: Edward Hall [Probationer 1902, Student 1904]; Wrenbury, Leinster Road, Muswell Hill.

GOTCH: Laurence Mursell [*Probationer 1899, Student 1902*] [*Institute Silver Medallist, Drawings, 1904*]; 52 Marchmont Street, Russell Square, W.C.

GOULDER: Arthur Christopher [*Probationer 1900, Student 1903*]; Woodbury, Woodford Green, Essex.

HEPBURN: James William [*Probationer 1902, Student 1904*]; 25 Denbigh Place, South Belgravia, S.W.

HOOLE: George Bernard Holland [*Probationer 1891, Student 1900*]; Lastingham, Hornsey Lane, Highgate, N.

HOY: Percy Cartwright [*Special Examination*]; Fern Clif, Heaton Mersey, Manchester.

HUMPHREY: Francis John [*Probationer 1899, Student 1902*]; Wanstall, Cranes Park, Surbiton.

HUTTON: David Bateman [*Probationer 1900, Student 1902*]; 184 Woodlands Road, Glasgow.

JAGO: Ernest Thomas [*Special Examination*]; 10 John Street, Adelphi.

JELL: George Thrale [*Special Examination*]; 11 Leinster Gardens, Lancaster Gate, W.

KENNEDY: Edwin Riddell [*Probationer 1899, Student 1902*]; 3 Easton Terrace, Cliftonville, Belfast.

LESLIE: Harry George [*Special Examination*]; 34 Ely Place, Holborn Circus, E.C.

MAKINS: Clifford Copeman, B.A. Cantab. [*Probationer 1903, Student 1904*]; 23 Queen Anne's Gate, S.W.

MARSHALL: Hugh John Cole [*Special Examination*]; 119 Grosvenor Road, S.W.

MOSS: Harry [*Probationer 1898, Student 1905*]; 52 Manley Road, Whalley Range, Manchester.

MOSS: Sydney [*Probationer 1900, Student 1903*]; Boek Bank, Eccles.

MUNDELL: Joseph Edward [*Probationer 1899, Student 1901*]; 157 Wool Exchange, E.C.

MURRELL: Harold Franklyn [*Probationer 1900, Student 1902*]; 7 Thorlow Park Road, West Dulwich, S.E.

NEWTON: John [*Special Examination*]; 2 Purley Park Road, Purley, Surrey.

PARLETT: John [*Probationer 1898, Student 1900*]; 9 Brandrett Road, Balham.

PENNINGTON: Stanley Highfield [*Probationer 1899, Student 1901*]; Meadow Villa, Station Road, Sudbury, Suffolk.

PHILLIPS: George Edward [*Probationer 1901, Student 1903*]; 38 Grafton Road, Acton, W.

ROWBOTHAM: Harry Arnold [*Probationer 1897, Student 1899*]; 19 Charing Cross Road, London, W.

RYCROFT: Joseph [*Special Examination*]; 27 Spring Gardens Road, Beaton, Bradford.

RYLATT: Walter Packerling [*Probationer 1901, Student 1903*]; 54 Richmond Mount, Haddingly, Leeds.

SALWEY: Jasper Philip [*Probationer 1904, Student 1905*]; c/o Messrs. Ravenscroft, Son & Morris, 22 The Forebury, Reading.

SANTO: Victor George [*Probationer 1901, Student 1903*]; Abbey, Foregate, Shrewsbury.

SCHOFIELD: William Peel [*Probationer 1903, Student 1904*]; "Southfield," Clarendon Road, Leeds.

SHACKLETON: Harry [*Probationer 1901, Student 1903*]; 8 Enfield Street, Keighley.

SMITH: James [*Probationer 1895, Student 1903*]; 1 Blythwood Drive, Glasgow.

SPURLES: Francis Adam [*Probationer 1899, Student 1902*]; Trelawne, Sutton, Surrey.

STOCKDALE: Frederick George [*Probationer 1898, Student 1902*]; 85 Durham Road, East Finchley, London, N.

THICKPENNY: Charles Reginald [*Probationer 1896, Student 1900*]; 8 Whippendell Road, Watford.

TRAVERS: Wilfred Irwin [*Probationer 1901, Student 1904*]; 3 Phillimore Gardens, Kensington.

WALKER: Edward Holsworth [*Probationer 1899, Student 1901*]; 18 South Parade, Doncaster.

WALKER: Ewart G. [*Probationer 1901, Student 1903*]; 24 Palace Court, Bayswater Hill, W.

WARD: Bernard Michael [*Special Examination*]; 44 Upper Parliament Street, Liverpool.

WATSON: Bryan [*Probationer 1901, Student 1904*]; 3 Rosella Place, North Shields.

WESTWICK: Bert Cecil [*Probationer 1902, Student 1904*]; "Hill Crest," Crow Hill, Mansfield, Notts.

WOODFORD: Austin [*Special Examination*]; Cedar Villa, Tilehurst, Reading.

The following table shows the number of failures in each subject of the Final Examination:—

I. Design	36
II. Mouldings and Ornaments	34
III. Building Materials	11
IV. Principles of Hygiene	18
V. Specifications	6
VI. Construction, Foundations, &c.	20
VII. Construction, Iron and Steel, &c.	20

The New London County Hall.

With reference to the course to be taken by the London County Council for obtaining designs for the new County Hall, it is stated that the Establishment Committee of the Council, after giving careful consideration to the suggestions of the Royal Institute, and also to the report from the architect of the Council, on the courses which could be followed, recommend that the Council should have a competition and that the scheme should be on the following lines. That the competition be divided into two stages—(a) the preliminary, (b) the final. The preliminary stage to be open to architects of any nationality, and that not less than ten and not more than fifteen of the best designs shall be selected in private by assessors. The final stage to be open to (1) the authors of the designs selected by the assessors in the preliminary stage, and (2) not exceeding eight leading architects to be invited by the Council to send in designs before the expiry of the period within which designs must be sent in for the preliminary competition.

The Committee recommend that there should be two assessors for the preliminary stages of the competition and three for the final, and that Mr. W. E. Riley, the Council's architect, and Mr. Norman Shaw, R.A., should be nominated to act in both stages, and that the competitors in the final stage should vote for the third assessor, who will act only in that stage. It is suggested that each of the competitors in the final competition should be paid a fee of 200 guineas. Following the principle recognised by Government departments in the buildings for the War Office, the Local Government Board, and the Admiralty, it is proposed to make it a condition that the successful competitor, if appointed, shall collaborate with the Council's official architect, who should have discretionary power in all matters relating to the internal economy and construction of the building.

The Seventh International Congress of Architects.

It is possible in the present number to do little more than chronicle the fact that the Congress has been held, and that the programme detailed in these pages a few weeks ago has been carried out in its integrity, without hitch and practically without deviation of any kind. This year's Congress, however, has been essentially an Institute concern, and as such demands full record in the JOURNAL. It is proposed, therefore, to devote an entire number to the subject, and to give in the August issue a complete account of the business proceedings, and of the various functions, visits, and fêtes with which the week has been crowded.

This was the first occasion of the International Congress meeting on British soil. In point of numbers it has been far ahead of previous records, the total membership amounting to little short of 1700, some seven hundred of the members coming from abroad. On every hand among those who have had experience of these Congresses appreciation is expressed for the British meeting as being unique in the interest of the subjects chosen for debate, and in the arrangements made for the entertainment and enjoyment of the members. The Congress indeed is universally acclaimed a distinguished success. This it could hardly fail to be. Everything and everybody combined to make it so. The zeal and enthusiasm, the tireless energy and self-sacrificing devotion of every helper in the work of organisation; the hearty welcome and generous hospitality extended to members by corporations and individuals alike; the admirable adaptability of the Grafton Galleries as the Congress locale; the, for Britain, quite tolerable weather, just only a little disappointing on the occasion of the Garden Party—nothing has been wanting to achieve success, at all events on the social and festive side of the programme.

As regards the more serious business and discussions, making allowance for the excessive heat and the outdoor attractions, the meetings have been very fairly attended. Although some of the meetings lasted nearly three hours, there was time for reading only a few of the numerous papers presented, and the quarter-of-an-hour limit imposed for those that were read, and the five-minute limit imposed on each speaker in the discussions, naturally resulted in the mutilation of some elaborately prepared essays and many carefully thought-out speeches. This defect, however, will be fully repaired in the *Compte-rendu*, where papers and discussions will appear *in extenso*. It is impossible at the moment to give any precise idea of the date of publication of the *Compte-rendu*. Every effort will be made, however, to get it through the press with as little delay as possible.

The late Lady Curzon.

At the Congress Meeting at the Grafton Galleries, on Saturday, Mr. Edwin T. Hall, Vice-

President R.I.B.A., in the Chair, the following resolution, moved by Mr. E. W. Fritchley, of Bombay, and seconded by Mr. S. Chajo, of Tokio, Delegate of the Institute of Japanese Architects, was carried in sympathetic silence:—

"Resolved: That the Secretary be requested to convey to Lord Curzon the sympathy of this Congress of Architects at the sad bereavement he has sustained by the death of Lady Curzon. This Congress feels that it owes a debt of gratitude to Lord and the late Lady Curzon for their efforts in the preservation of ancient architectural monuments in India, and the encouragement of Indian arts and manufactures pertaining to our profession."

The President's Farewell "At Home."

The President's "At Home," given in the rooms of the Institute on Monday the 23rd inst., formed a pleasant supplement to the Congress festivities. A large number of members of the Institute were present, together with some of the foreign members of the Congress who were extending their stay in England. On view in the meeting-room was an interesting collection of water-colour sketches and drawings of architecture, most of them from the Congress Exhibition, and kindly arranged for the "At Home" by the Secretary of the Exhibition, Mr. Ralph Straus. The water-colours included sketches by Messrs. E. Guy Dawber, Ernest George, Walter Millard, Sir Charles Nicholson, R. Phené Spiers, J. A. Swan; and others by the late S. Hart, A. W. Pugin, George Devey, J. K. Colling, J. O'Connor, R.I., and Joseph Nash. A selection of drawings was shown from the Burlington-Devonshire Collection, of which the Institute is custodian, comprising original drawings by Inigo Jones, W. Kent, and J. Webb. Also some drawings from the Institute collection by Sir Christopher Wren, H. L. Elmes, and others eminent in architecture.

Monday's "At Home" was practically Mr. Belcher's farewell reception as President of the Institute. The thanks of the General Body were publicly voted to him for his eminent services as President, on the motion of Sir Aston Webb, at the last meeting of the Institute [see page 445]. It remains only to add the grateful acknowledgments of the staff for the kindly courtesy and consideration they have invariably experienced at the President's hands during the whole period of his occupancy of the Chair.

Obituary.

WILLIAM JOHN GANT, elected Associate 1881; Fellow 1892. Mr. Gant died at his residence, 11 Havelock Road, Hastings, on the 2nd inst.

ROGER THOMAS CONDER, of Buenos Aires (Soane Medallist 1881), elected Associate 1881, Fellow 1905. The news of Mr. Conder's death arrives by cable, which states that he died suddenly.

Patron: His Majesty the King

UNDER THE AUSPICES OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

VIITH INTERNATIONAL CONGRESS OF ARCHITECTS

LONDON, 16—21 JULY 1906

Hon. President: H.R.H. THE PRINCE OF WALES, K.G.

President: Mr. JOHN BELCHER, A.R.A., President R.I.B.A.



SUMMARY OF PROCEEDINGS

Headquarters of Congress: THE GRAFTON GALLERIES, Grafton Street, London, W.

Secretary:

W. J. LOCKE,

Secretary R.I.B.A.

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FRONT OF MENU CARD FOR THE CONGRÈS BANQUET, DESIGNED BY SIR LAWRENCE ALMA-TADEMA, (C.M., R.A.).



THE CONGRESS : SOME NOTES AND IMPRESSIONS.

By MERVYN MACARTNEY [F.].

THE Papers and proceedings of the Congress will be published in *extenso* in the *Compte Rendu* to appear later ; meanwhile it has been thought advisable to set before members of the Institute in their own JOURNAL a *précis* of the Papers and doings of the VIIIth International Congress of Architects. There is no doubt that the Congress was a great success. The number attending was a record, and the organisation was excellent. This was largely due to the untiring zeal and energy of the Secretary of the R.I.B.A. and his collaborators. All worked in harmony with the one object of making the Congress a great success. To arrange and cater for so large a body as 1,700 people was no sinecure. The multifarious duties that fell to this devoted body deserve more than a passing word of thanks, but this is not the place to enlarge on this side of the matter before us.

To the President the Congress owes a great debt of gratitude. His unfailing urbanity and tact under all conditions smoothed away many difficulties. His office was a trying one even to a man in robust health ; it must have been doubly so to Mr. Belcher after his late serious illness. All members of the Institute must hope that the strain put upon him has had no injurious effect.

A plain statement of what was done would prove uninteresting. So I have adopted the rather unusual course of stating my own impressions, which, though partial, will at least be personal and unofficial. The Papers numbered seventy. Naturally all were not of equal value, neither would they all appeal to the whole architectural world. Roughly, they may be divided into two sections, controversial and professional.

In the first we have the conservation of national monuments, the extent to which an architect should receive the theoretical and practical training of the craftsman, the architect's control over artist and craftsman, the place of architecture in general education, and lastly the statutory qualification for architects, a subject which may be discussed under both of our main headings.

Professor Baldwin Brown, who read the first Paper on the Conservation of National Monuments, clearly contrasted the difference between British arrangements and those adopted in Continental countries. The Ancient Monuments Protection Amendment Act of 1900, he said, showed an advance ; but on the whole, while abroad this subject had been taken up by the Government, in Great Britain it had been left to private enterprise. Again, though Great Britain had a Monument Act, it conferred no compulsory powers over monuments in private or corporate ownership. In inventorisation, too, we were behind our neighbours, and Professor Brown welcomed the idea that the Congress should strengthen the hands of those who urge the necessity of this, and pleaded for the appointment of a Royal Commission as the most practical measure possible.

The Training of Architects in Craftsmanship naturally attracted great attention. Mr. Reginald Blomfield read an interesting Paper in which he surveyed the whole field from an historical standpoint ; and after M. van Gobbelschroy, on behalf of the Central Society of Architecture of Belgium,

had warmly urged the necessity of such training, M. Gaston Trélat made a valuable contribution to the discussion, based no doubt upon his personal experience in the school which bears his name. M. Trélat's conclusion was that the education of an architect was sufficiently perfected by the routine of a life bound up with the applications of the art. As to a theoretical and practical education at the beginning of the career, he held that the advantage would not compensate for the time so spent.

On the subject of the Architect's Control over Artists and Craftsmen, Sir W. B. Richmond urged that a committee of six architects, six sculptors, and six painters should be appointed by the R.I.B.A. in order to get away from specialism and its narrowing effects, and he looked forward to such a committee becoming an advisory body to the Government and L.C.C. both in common sense and good taste in all matters artistic. M. Nénot, of the French Institute, recalled some personal experiences at the time of the construction of the Sorbonne, and maintained that an architect should be given great freedom in his choice of collaborators, and that he must himself direct the artists to follow their work without any other preoccupation than the general harmony of the whole, and that within the limits of securing such general harmony he must leave the painters and sculptors complete liberty of form and of colour.

The Education of the Public in Architecture drew an interesting Paper from Mr. Belcher, A.R.A., President of the Congress and of the R.I.B.A., in which he minutely examined all the principles of architecture mainly from a technical point of view. Mr. T. G. Jackson, R.A., perhaps hit the nail on the head when he said that, after all, the best means of education was by the production of good buildings (with which Herr Otto Wagner, of Austria, agreed); but many others favoured more concrete and immediate steps being taken, and Señores Carmona, March, and Sacconella were for direct education in schools by way of the compulsory teaching of elementary architecture, the endowment of free chairs, excursions to the most renowned buildings of all countries, and even by the gratuitous display on municipal cinematographs of collections of buildings.

Lastly, with regard to the Statutory Qualification of an Architect, there was considerable difference of opinion; but M. Louis Bonnier, of Paris, struck the right track, in my opinion, when he declared that in architecture, more than in any other art, teaching was a necessity. Two forms of teaching were in fact necessary—methodical teaching and technical teaching—and the two could not be separated without giving imperfect results. Such teaching, he concluded, must, to be efficient, be accompanied by a sanction pointing out the person who could be safely entrusted with the fortunes of private people and the budget of the State, the health of the individual and the hygiene of the nation. That sanction is the diploma.

Herr Otto Wagner was also, I think, right, when he pointed out that artistic control could easily be exercised by the various Boards of Works, and that the legal process must consist therefore in the architect by his signature accepting responsibility for his plans and covering himself by the contractors of the various parts of the work, who in turn produced the calculations made and revised by them.

In the second main division we have the professional subjects, such as the execution of important Government and municipal work by salaried officials, steel and reinforced concrete, the conduct of international competitions, the ownership of architects' drawings, and the planning and laying-out of streets and open spaces. On the first of these subjects an excellent Paper came from Herr Otto Wagner, who pointed out that the architect appointed to an office could not play the leading part, but must subordinate his ideas to his official superiors; that no artist cramped in an office could reach his highest development; and that therefore a State or municipal administration would never obtain as salaried officials first-class architects, and that therefore they could not fulfil by this system their sacred duty of cultivating the fine arts.

The discussion upon steel and reinforced concrete was responsible for a great number of valuable Papers being read, Mr. E. P. Goodrich's account of his own system of ferro-concrete being

interesting, but appearing to rouse a good deal of criticism. Throughout, the leading part was, not unnaturally, played by our American *confrères*, and an interesting announcement was made by Mr. George B. Post, who said that before the next Congress he hoped the American Commission appointed to make extensive experiments of all building materials would be able to furnish full information.

Little or no substantial progress was made as to the conduct of international competitions. A carefully codified Paper by M. Guadet introduced the subject, but for the most part the discussion wandered off into minor details, and finally it was decided to refer the whole question to the Permanent Congress Committee.

The discussion upon the ownership of architects' drawings showed a distinct tendency to become limited only to the British aspect of the matter. From this, however, it was rescued by Dr. H. Muthesius (Germany), who showed that the legal question was by no means so definite in Germany as many of the audience seemed to imagine; and finally a much amended resolution was carried recording the opinion of the Congress that the architect is employed for the production of a building, and that all drawings and papers prepared by him to that end belong to him.

On the planning and laying-out of streets and open spaces excellent Papers were read, and everyone regretted that time would not allow of a discussion being held. A very thoughtful Paper came from Eugène Hénard, who minutely compared the principles on which Berlin, London, Paris, and Moscow had been laid out, and who, as regards parks and open spaces, summed up in favour of the superiority of London. Another good Paper came from Dr. J. Stübgen (Berlin), who argued that on purely æsthetic grounds there was as much to be said for straight as crooked streets, and advocated the aiming at self-contained street pictures. Not the least interesting or valuable item was the exhibition by Mr. Frank Miles Day, of Philadelphia, of a series of pictures illustrating the ideas advanced in the Papers, including views of what had been accomplished at Cleveland, Buffalo, St. Paul, and Washington.

The discussions that ensued give a fairly good index of the importance attached to the subject by the members attending the Congress. The attendances on no occasion except the last were crowded. In fact it was evident that a large portion of the members came for enjoyment rather than for serious purposes. With the exception of *The Times* and *Morning Post* the public Press and public generally took little notice of the proceedings. Architecture is not understood of the people, and our controversies interest them but little. Till the awakening comes we must be content to be unrecorded and despised. The one subject that seemed to be worth recording was that of the statutory qualification of architects—that appeared to touch them nearly. It would not do to enlarge on this subject here, but it seems a matter for regret that the discussion somehow ended as it did.

To turn to other matters the excursions were in all respects a success, except that provision had not been made for the numbers that would have wished to avail themselves of the opportunity of seeing the various historical buildings prepared for these visits. As most of these visits were in duplicate it is impossible for me to speak of more than half. The half that I attended were undoubtedly a success, though the excessive heat was most trying. It must be a source of satisfaction to the British member to find that unstinted praise was bestowed on the buildings selected for inspection. The praise that was given on the part of our *confrères* must do good as coming from unprejudiced sources. It was my good fortune to be in the company of some of our transatlantic cousins, and the surprise and the enjoyment of our architectural brethren were most comforting to the British breast.

There is as much individuality about some of our English homes and castles and their environment as in the palaces of Venice and her lagoons. You cannot, and never will, find their like elsewhere. There is a distinction as well as a distinctiveness about Hatfield, Bramhill, Haddon, Hampton Court, and Knole which is inimitable. This has been recognised by ourselves

for many years. It was a revelation to many of our distinguished guests. The visits to Oxford and Cambridge, Hatfield and Hampton Court, gave them ocular demonstration of this. But the Chronological Exhibition also showed them, not only the choicest examples of our domestic architecture, but the vast stores of ecclesiastical buildings spread throughout the length and breadth of the land. It seems to me that the R.A. could with advantage have an Exhibition of Architectural Work, leaving out modern work. The Congress Exhibition, interesting as it was, was not so attractive as it might have been, owing to the extremely limited time available for hanging, and to the fact that there was a want of harmony in the arrangement. All these faults could largely be obviated by more time and some expenditure of money. It is slowly being borne in on the public intelligence that easel-pictures do not represent the whole phase of art. The oldest and most useful of the arts has a claim to be considered by the leading society of artists.

Of the purely social and convivial meetings of the Congress it is hardly necessary to say much beyond the fact that they were all immensely popular. It must have struck our guests as singular that no Government notice was taken of our proceedings. To us who are used to this snubbing it did not seem extraordinary, but to our friends it appeared as a slight which they could not understand.

One definite result appeared to me to come from the discussions, and that was that, in the opinion of those best qualified to judge, namely, the American architects, reinforced concrete and steel construction was still in the experimental stage, and that no reliable data had as yet been acquired. It behoves all those who are about to employ this method of building to proceed with extreme caution. When we have learnt how to build with safety with this novel construction, we can then apply our minds to its artistic treatment.



THE SEVENTH INTERNATIONAL CONGRESS OF ARCHITECTS, LONDON 1906.

SUMMARY OF PROCEEDINGS.

General Arrangements.

The task of organising the Seventh International Congress of Architects was undertaken by the Institute at the request of the Permanent Committee of the Congress assembled at Madrid in 1904. Committees, General and Executive, were forthwith appointed, and preparations for the London meeting at once commenced. The Executive Committee consisted of Mr. John Belcher, A.R.A., *President*; Sir Aston Webb, R.A., *Past President* R.I.B.A.; Messrs. Alexander Graham, Hon. Sec. R.I.B.A., T. E. Colcutt [F., now *President*], H. T. Hare, Vice-President R.I.B.A., John Slater [F.], Leonard Stokes, Vice-President R.I.B.A., John W. Simpson [F.], Thos. W. Cutler [F.], H. H. Statham [F.], Reginald Blomfield, A.R.A. [F.], Mervyn Macartney [F.], E. Guy Dawber [F.], R. S. Balfour [F.] (*President A. A.*), W. J. Locke, Sec. R.I.B.A., *Secretary*.

As a first step the King was approached, and his Majesty graciously accorded his patronage to the Congress. H.R.H. the Prince of Wales signified his kindly interest in the Congress, and consented to fill the office of Vice-President. H.R.H. the Duke of Connaught, his Grace the Duke of Argyll, and several other distinguished personages kindly accepted the invitation of the Council to serve as Vice-Presidents. On the General Committee were several eminent London architects, painters, sculptors, and engineers, and the Presidents of the Allied Societies in Great Britain and Ireland. The Committee of Patronage included Ministers attached to various British Colonial and foreign Governments, professors in the great Continental academies and colleges of fine arts, distinguished savants of all countries, and leading members of the architectural profession in the chief cities of the world. Delegates were sent by the foreign Governments of Europe and the United States and by the principal learned and professional bodies throughout the world.

"The work of organisation," to quote the statement of the Secretary read at the Inaugural Meeting at the Guildhall, "began by the Executive Committee asking the premier architectural societies of the world to issue circulars of propaganda to the architects practising in their respective countries. By their generous and loyal help* over twenty-five thousand circulars were distributed, the invitation to join the Congress was printed in every architectural journal, with the result that practically every practising architect the world over had had the Seventh International Congress brought to his notice.

"The Executive Committee have departed from tradition in according to ladies practically full privileges of the Congress at a special subscription.

"The Committee are proud to record the fact that the number of members has reached the figure, unprecedented in these Congresses, of nearly 1,700. Of these 700 are from foreign European countries, America, and the British colonies.

* The Papers for abroad were consigned in parcels to the Secretaries of the Colonial and Foreign Societies and of the various Sections of the Permanent Committee, who very kindly undertook their distribution, and to defray the cost thereof, in their respective countries. The various Papers were printed in the four languages, English, French, German, and Italian.

"The Executive Committee have to mention to their colleagues from other countries the fact that the British Government stands aloof from participation in the organisation of Congresses of this kind. It neither subventions them nor invites foreign Governments to appoint official delegates. The guarantor of the Congress is the Royal Institute of British Architects, and foreign Governments have been approached semi-officially through the independent action of the Executive Committee acting under the authority of the Royal Institute."

The Council of the Institute granted the sum of 500*l.* towards the expenses of the Congress; and in addition gave a Garden Party to members at the Royal Botanic Society's Gardens. The Society of Architects made a donation of 100*l.* to the Congress funds; and the Architectural Association one of 25*l.*

The three classes of members contributed: *Donors*, 4*l.*; *Subscribing Members*, 1*l.*; *Lady Members*, 10*s.*

The privileges of members included the receipt of a Card of Identity; a Congress Badge; all the Literature



FACE OF MEMBER'S CARD OF IDENTITY.
DESIGNED BY MR. JOHN W. SIMPSON.

issued in connection with the Congress; the final *Compte Rendu* of the Congress; an invitation to the Inaugural Meeting at the Guildhall; an invitation to the Conversation given by the Lord Mayor of London at the Mansion House; an invitation to the Soirée given by the Royal Academy at Burlington House; an invitation to the Institute Garden Party. Members were entitled to attend the meetings of the Congress; and to participate in the Various Visits, Entertainments, and the Farewell Banquet on payment of the necessary charges.

The British railway companies and various Continental companies issued return tickets to London at considerable reductions to members attending the Congress.

The London Exhibitions, Ltd., placed at the disposal of members five hundred invitations to visit the Imperial Royal Austrian Exhibition at Earl's Court.

The Zoological Society threw open their Gardens to members on the Sunday immediately proceeding and that following the Congress.

The Royal Botanic Society gave members free admission to their Gardens during the Congress Week.

The Athenaeum, the Arts Club, and the National Liberal Club elected foreign delegates to honorary membership during the same period.

Lady members were constituted Hon. Members of the Lyceum Club (for ladies).

A Ladies' Committee, consisting of Lady Webb, Mrs. Belcher, Mrs. Blomfield, Mrs. Dawber, Mrs. Hare, the Hon. Mrs. Macartney, Mrs. Slater, Mrs. Statham, and Mrs. Stokes, arranged for the comfort and entertainment of Lady Members; and a room was set apart for them at the Grafton Galleries.

The members' badge, designed by Mr. John W. Simpson, whose drawing for it is reproduced on accompanying sheet, was in bronze, executed by the Bromsgrove Guild. The member's card of identity, also Mr. Simpson's design, was in green leather, the front being tooled in gold. Printed inside was a formal certificate of the owner's identity as a member of the Congress, with the signatures of the President and Secretary in facsimile.

A first instalment of literature issued to members consisted of a handbook of 132 pages, in English and French, giving brief descriptions, and in some cases plans, of the various buildings on the programme of visits; information as to other places of interest in London; a list of hotels and tariffs; cab fares, &c. The title-page, which is reproduced above, was kindly designed by Mr. E. A. Rickards.

The subjects selected for discussion at the Congress had been carefully chosen by the Executive Committee as subjects of universal importance to architects, without regard to conditions peculiar to any one nation. Seventy reports on these subjects, contributed by representatives of every country in Europe and America, were accepted by the Committee. To encourage and facilitate discussion at the meetings, authors were required to furnish abstracts of their papers some time in advance

in order that they might be printed and circulated among the general body of members. These abstracts, with the shorter communications given entire, were translated, printed in English and French, and issued in book form to all home members prior to the opening of the Congress.*

The Committee had been fortunate in securing the Grafton Galleries as the headquarters of the Congress, especially in view of the Exhibition which proved so attractive a feature of the Congress. Centrally situated, with spacious and well-lighted halls and galleries, with ample accommodation for the somewhat extensive needs of the administration department, and for the telegraph, post-office, and other services, no more desirable quarters for the Congress could possibly have been found.

The Exhibition Sub-Committee was composed of Messrs. John Belcher, A.R.A., Leonard Stokes, H. Heathcote Statham, Thos. W. Cutler, Mervyn Macartney, J. Alfred Gotch, C. Harrison Townsend, Francis Bond, Walter Millard, Edward S. Prior, W. A. Forsyth, W. Wonnacott, E. Guy Dawber, J. Sturkie Gardner, W. J. Locke, Ralph Straus (Secretary).

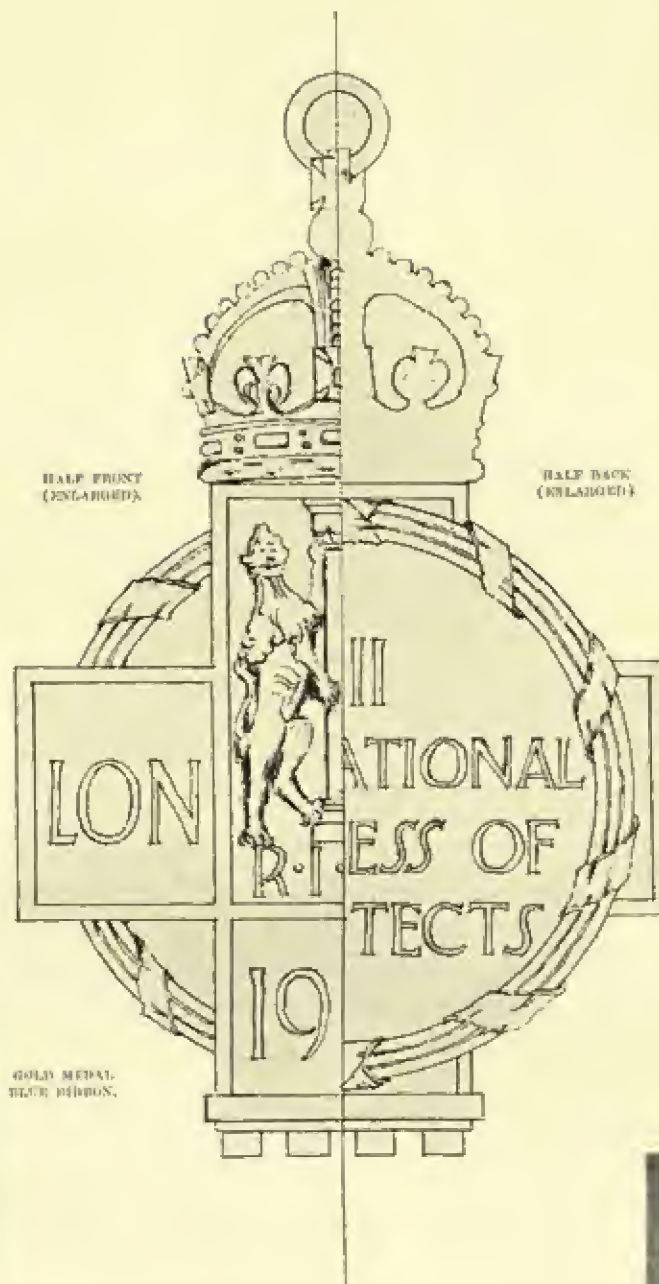
The exhibits included water-colours, measured drawings, plans, photographs, &c., of British architecture, with specimens of British furniture and silver-work. The exhibits, exclusive of the silver-work, numbered 1,089. The Catalogue, produced under the editorship of Mr. Straus, forms an interesting and valuable addition to the Congress literature. The following passages quoted from Mr. Straus's preface will give an idea of the aim and scope of the exhibition:—

"The Exhibition is divided into eight sections,

of which six deal with purely architectural subjects, one with British furniture, which is generally allowed to be closely connected with architecture, and one with British silver-work. Of the first six sections four go to make up what may be termed a fair representation, arranged chronologically, of British architecture. These are entirely confined to the long galleries. Having decided that the exhibition most interesting to architects would take the form of a collection of plans and measured drawings, supplemented by photographs, the Committee have en-

* The communications above referred to, in English, with others subsequently to hand, are printed in the present issue, pp. xxi-xxii, the names of those taking part in the discussions and the conclusions arrived at by the Congress being given at the end of each subject.





COMMITTEE BADGE—FRONT
(ACTUAL SIZE)

GOLD MEDAL,
BLUE RIBBON.

WHITE ENAMEL,
GESTHE GERMANY.



ORDINARY MEMBER'S BADGE—BACK
(ACTUAL SIZE)

THE INTERNATIONAL CONGRESS BADGE, 1906, DESIGNED BY MR. JOHN W. SIMPSON.

REPRODUCED FROM MR. SIMPSON'S DRAWING.

deavoured to illustrate in this way such buildings as appeared most representative of their particular type. The period so covered begins at the Norman Conquest and ends in 1860, the year in which Sir Charles Barry, R.A., died. It will be noted that, where possible, original drawings have been secured, although it was found necessary to include certain reproductions to complete the scheme of the exhibition.

"The large galleries contain a small collection of water-colour paintings dealing with British architectural subjects.

"In the lower gallery a series of photographs forms a more or less representative exhibition of the work of living British architects.

"... In assigning a certain portion of the exhibition to furniture the Committee have been actuated by a desire to show some few specimens of British work more or less illustrative of their own particular school or period. The pieces shown all come out of private collections now in London. The same may be said of the silverwork, exhibited with the furniture, in the lower gallery. There are very few pieces of silver, but each is of great individual interest, and some are now exhibited for the first time."

The Programme of the Congress, a work extending to sixty-four large octavo pages, gave full details of all the arrangements, particulars of the various meetings, functions, entertainments, and visits, together with lists of committees and delegates, and the names and addresses of the entire body of congressists.

Opening Day and Inaugural Ceremony.

The Congress opened at 10 o'clock on Monday morning, the 16th inst. The President, wearing the Institute Presidential insignia of office, and supported by most of the members of the Executive Committee, awaited members in the great central hall in readiness for the first item on the Programme, the President's Informal Reception. A Master of the Ceremonies was in attendance to announce the names of members as they advanced to be presented to and welcomed by the President.

To minimise the confusion that would probably attend the sudden ingress of some hundreds of members, mostly foreigners unacquainted with the English tongue, every member on entering was handed a paper giving directions in English, French, German, and Italian as to the exact course to follow in order to have his requirements in the way of badge, cards for entertainments and visits, railway tickets, &c., at once attended to. By this means endless questions were anticipated and answered without need for reference to anyone. Placards conspicuously placed on the walls indicated the counters where members could be attended to in their own language, and interpreters, distinguishable by the coloured ribbons they wore, were posted about the rooms on the watch to render service where required. The machinery for dealing with this preliminary and, for the Executive, most anxious part of the business worked so smoothly that in less than three hours after the opening of the doors the wants of the thousand or so members who had put in an appearance had been met. After being presented, the visitors passed through the Galleries and inspected the various exhibits.

At 11.30 the Permanent International Committee, presided over by the President and M. Daumet (France), with M. Poupinel (France) and Mr. W. J. Locke as Secretaries, met in the Institute Rooms for the appointment of Chairmen and Hon. Secretaries for the various sittings of the Congress. An English and a foreign Chair-

man, and an English and a foreign Secretary were appointed for each of the Sectional Meetings where the questions of the Programme were to be discussed. The names of the Chairmen and Secretaries will be found printed under the titles of the various subjects in a subsequent part of this report.

The formal inauguration of the Congress took place at the Guildhall, kindly placed at the disposal of the Congress for this purpose by the Lord Mayor and the Corporation of the City of London. H.R.H. the Princess Louise had graciously consented to honour the meeting with her presence; and the proceedings were to be presided over by the Duke of Argyll, one of the Vice-Presidents of the Congress.

The meeting took place at three o'clock, and was very largely attended, the great historic hall being filled to overflowing. Her Royal Highness and the Duke were awaited at the door of the side gallery by the President and members of the Executive Committee and by the Lord Mayor and Lady Mayoress and the Sheriffs of the City. On their arrival Mrs. Becher, on behalf of the Ladies' Committee, presented the Princess with a beautiful bouquet of flowers. The whole party then proceeded up the staircase and through the picture gallery on to the dais of the Great Hall. Among those afterwards assembled on the dais were the United States Ambassador, the Greek Minister, and the various delegates from foreign countries who were subsequently to address the Meeting; Sir L. Alma-Tadema, R.A., Sir W. B. Richmond, R.A., Sir Aston Webb, R.A., Sir Wm. Emerson, Sir John Taylor, Professor Aitchison, R.A., Mr. Alfred East, R.A., Mr. Reginald Blomfield, A.R.A., the Hon. Nona Kerr and Captain Geoffrey Robert, in attendance on the Princess; the Members of the Executive Committee, the Secretary, and several members of the Institute Council.

The Lord Mayor, having addressed from the Chair a few words of welcome to the Princess Louise and the Duke of Argyll, surrendered the Chair to the Duke, who then called upon Mr. Becher, the President, to deliver his Address of Welcome.

The President's Address.

Your Royal Highness, my Lord Duke, your Excellency, my Lords, Ladies, and Colleagues,—As President of the Royal Institute of British Architects I have the honour of being invited to preside over the work of this the Seventh International Congress of Architects; and on behalf of the Executive Committee I take the earliest opportunity to heartily welcome the distinguished Delegates and Architects who have honoured this country by their presence, and to assure them of our high regard and esteem.

I feel sure that the members of the Congress will be gratified to know that His Majesty King Edward VII. has been graciously pleased to be the Patron of the Congress, that the Prince of Wales has consented to be its Honorary President, and that the Royal Family have in other ways shown an interest in our proceedings which has been, and will continue to be, a great incentive and encouragement to us.

The Royal Princess whose kindly and gracious presence we welcome amongst us to-day is not only herself a distinguished sculptor, but has shown also a keen and discriminating appreciation of Art in all its forms. The artistic tastes and interests of the Princess Louise are as well known to our confrères from other lands as they are to us.

Gentlemen, I have every hope that our deliberations will prove of great interest and value, and will tend to

the advancement of our beloved art throughout the world. It is by interchange of ideas, comparison of methods, and the statement of experiences under new and changing conditions that that advancement will be assured. These Congresses, therefore, may be expected to bring in their train fresh life and vigour, increased enthusiasm, broader views, and new ideas which cannot fail to benefit the community at large.

I say "community" advisedly, because the fact is beginning to be recognised that Architecture as a fine art is not, or must not any longer be, one of the luxuries of the rich, but is of vital importance to the physical and moral well-being of all sorts and conditions of men, especially in cities and large towns. Environment is a tremendous factor in education and development. A man's surroundings have enormous power over him, whether for good or for evil; a power that acts continuously, without cessation—almost, we may say, by day and by night.

This fact is being more and more clearly recognised every day, and efforts, we hope, will be made to introduce a stricter supervision over buildings of every kind, that a better order of things may gradually be created.

But here, at the very outset, we are confronted by a popular misconception concerning the true nature of Architecture.

In past years public interest has been almost limited to the scientific side of the question, viz., that houses and other buildings should be well built, sound, and wholesome; that drainage and ventilation should be carefully attended to, and other so-called "practical" matters.

Occasionally, and more frequently of late, a certain amount of ornament and so-called style has been demanded, and this has been thrown in or daubed on afterwards, and the result dignified with the name of Architecture.

Such work is not true Architecture at all. It is mere building—sound and good perhaps, but still mere building—plus certain ornamental and decorative features. Now, if our architecture is to be an elevating and refining influence; if it is to be an enduring power for good; still more, if it is to be a witness to coming generations of earnest purpose and high aspirations, of moral power and intellectual greatness, the artistic element must not be something merely added; it must interpenetrate and blend with scientific knowledge and experience from the very first.

Architecture is both a science and an art, and the mathematical symbol of the relation between the two is not that for mere addition (+), but for multiplication (x). In other words, Science supplies the facts and the laws which Art takes and presses into the service of noble ideals. The scientific and artistic elements in a good building may perhaps to a certain extent be distinguished, but they cannot be separated; they are as inseparably connected as mind and body.

The primary motive for all building lies in the practical needs of life, in the demand for shelter and comfort; but the architect's work calls for a much wider range of thought and purpose than is necessarily implied in such provision.

If the task entrusted to him is to be honourably as well as adequately fulfilled he must be an artist, with an artist's motives, aspirations, and ideals, as well as a man of practical skill and scientific knowledge.

In this way the elementary necessities of life may be made to serve high and noble ends, and much that is elevating and refining may be brought into the lives of the people as a silent but continuous power for good.

Their homes, the streets they traverse, and the buildings

they work in may all be made, as Lord Leighton once observed, to contain "the fire-germ of living beauty," quickening and invigorating the deep springs of health and joy.

The proceedings of this Congress and the publicity attaching to them will help, we trust, to bring this important subject into greater prominence; and we shall, I am sure, find, as we have often before found, the public Press most ready and most powerful in helping on anything that concerns the common weal.

It may perhaps be as well here to inform those of our honoured guests who are not yet aware of the fact that in this country we have no Minister of Fine Art or similar authority to watch over the interests of the public in this respect of the art, as distinguished from the science, of building.

We have a "First Commissioner of Works," it is true; but, however able and enlightened he may be, tradition and custom limit his activity and his authority within certain fairly well-defined lines.

There has been, however, of late, amongst the educated portion of the public, a wonderful awakening to the interest and value of Architecture as a fine art. On all hands we discover a receptive spirit, a disposition to inquire, and a readiness to learn something of the mystery of our art—not merely to admire and study its past achievements, but, treating it as a living art, to ascertain its true functions and vital principles. Everywhere intelligent men are asking how they may distinguish between good and bad; and asking, too, *why* this is good and that bad.

We are taking steps to supply the public with some simple criteria of a general character which may serve as a basis for the formation of a critical taste and sound judgment; and the question of how best to carry this out is a subject that will come before the Congress for consideration and discussion.

If we can thus give the public an insight into some of the living principles of our art—and here I beg to emphasise the word "living"—we shall unlock to them a veritable storehouse of interest and information. For no man has a richer field lying before him for exploration and research than the man who takes an intelligent interest in Architecture, who can appreciate its points, and decipher its meaning. Everywhere, at every turn, he finds a new "subject" to exercise his perceptive and reflective faculties upon. Every truly good work will be to him a fund of information as well as a revelation of character and purpose. He will read the mind of a people in their buildings and understand the social conditions that prevailed in each age. For all true Architecture is instinct with life, the life of its people and of its age.

We may study the thoughts and purposes of past generations, not only in their poetry and their prose, but also in the architectural work that they leave behind them.

No historian's verdict is more reliable than that which is written as with a pen of iron in brick and in stone.

How much have we learnt of the brilliance of Greece and the majesty of Rome from the monuments of their Architecture that have survived!

So also our buildings tell of our daily life and doings, of our noble aims or our sordid interests, of our broad, large-hearted views or of narrow-minded selfishness.

A private residence is an index to the character, tastes, and disposition of its owner. So, too, our public buildings will declare aloud to after generations the ideals and sentiments that govern our municipal and national life.

The educational value and historical interest and importance of Architecture are enhanced by the fact that,

unlike Literature, Architecture is cosmopolitan and universal in its language; its great works, its priceless treasures, are open to be known and read of all.

Every nation, it is true, has its own accents and its peculiar idioms even in Architecture; but this is to be counted for a gain rather than a hindrance by the man who visits other lands. As he travels from one country to another, or even from one city to another, he finds an infinite diversity of expression, throwing an ever-shifting light upon the various aspects and sides of human life and thought and feeling. Many a record of the past, too, is opened to his eyes, speaking of men and manners that have passed away.

The study of Architecture may indeed be made one of the most entrancing of pursuits; but if it is to be delivered from that touch of pedantry, that archaeological flavour, that so often clings to it, the student must be brought into contact with living principles. The monuments of the past, as well as the work of to-day, must be read and judged in the light of those principles that hold good for every age and for every nation.

In addressing my brother architects from other lands—and I am proud to see so many distinguished men amongst them—I may venture to point out that our Architecture, like that of other nations, has a distinctive character of its own, being of a severer and graver type than is found elsewhere.

This is partly accounted for by the dull grey atmosphere which so constantly wraps us round, by the comparative rareness of clear and sunny skies, and our generally unfavourable climatic conditions; but I am afraid we must not throw all the responsibility upon Nature.

We are insular in character and disposition—there is no doubt about it—and more so perhaps as individuals than in our corporate life. Every man is his own island—a sort of moated grange, in fact, with the drawbridge habitually raised. We are reserved and apt to shut ourselves up within ourselves. In our railway trains, and even in our clubs, we sit apart in silence, or merely throw remarks at one another over the top of the morning paper. We habitually repress our emotions and hide our feelings.

Naturally, therefore, our buildings also are often stolid, even grim and forbidding in appearance: they lack the charm and brightness which distinguish the Architecture of other and sunnier lands. We hide them away too—in back streets or (if they be in the country) behind high walls and as many trees as we can press into the service.

But let me hasten to add that I have a purpose in speaking of these external characteristics of British Architecture, and that is to beg my illustrious confrères from abroad not to stop at the external features, but to pursue their researches a little further, and they will find set forth in our buildings another characteristic of the people of the land they are honouring with a visit. Under a somewhat grave and sedate appearance it will be found that our people possess warm hearts!

Once within the doors of their houses there will be no lack of a heartiness of welcome and a sincerity of goodwill which may be firmly relied upon.

The many mansions and other beautiful residences with which our country abounds reflect this deeper element of our hearts and lives, and will be found worthy of your notice.

I believe it is generally agreed that our modern domestic buildings present a noteworthy development of our art, and one that is almost peculiar to this country. We cannot show you streets leading to public buildings of such stately character as may be seen and admired in other

great cities of Europe, and our public buildings themselves are consequently at a disadvantage.

The new Approach to Buckingham Palace and the Memorial to Queen Victoria—designed by Sir Aston Webb—show what might be done if only such opportunities were more frequently given.

Had Sir Christopher Wren been allowed to carry out his plans for laying out the City after the Great Fire, there would have been no lack of fine streets to show you, or of splendid vistas opening up to view every building of importance. But there was no Minister of Fine Arts to turn the scales in favour of an enlightened policy!

Having drawn attention to some of the features and conditions of British Architecture, let me acknowledge, on behalf of my countrymen, how much we have learnt from, and how much we have profited by, the many splendid examples of Architecture which are to be found and admired in your respective countries. We naturally and instinctively turn to the South for that which is bright and beautiful. The warmer temperament of the southern artist is favourable to productive fancy.

We see that the nations amongst whom the love of beauty is a national trait, instinctive and inherited, seek it in all their works, and set forth their national greatness in their public buildings—an element in the education of the people which no Government can afford to despise.

The union of the arts in which we believe the secret of your success to lie is not so advanced amongst us as with you; but signs are not wanting even here of the growth of a closer bond between them, and architects and sculptors will be found collaborating on a building to present its distinctive purpose with greater clearness and beauty before the eyes of men.

The utilitarian cast of mind, running ever in its one groove, may laugh or even sneer at this; but from a national as well as humanitarian standpoint, there can scarcely be a greater mistake than to overlook and neglect the emotional side of man's nature.

The greater the advance in civilisation, the more pressing the claim of the emotions of the people to due recognition and well-balanced development on true and right lines.

Feats of engineering, appealing to the intellect, astonish but do not move us; but works of beauty, buildings of graceful proportion and appropriate design lift the beholder above the vulgar and commonplace into a higher region, and fill the heart with lofty ideals and pleasurable emotions.

The aim and purpose of the Congress is the welfare of the people. This can only be accomplished by raising the ideal both of architects and the public, by setting a higher tone and proposing a nobler end for all work, and thus lifting that which would otherwise be blankly material, utilitarian, and common-place into the region of the beautiful, the elevating, and the inspiring.

In conclusion, permit me once again to offer you all a heartfelt and most cordial welcome. I trust that the Congress will be a great success, and that your visit to London will prove both a profitable and an enjoyable one.

Delegates' Replies.

The President's Address concluded, Mr. W. J. Locke, *Secretary*, formally presented the official report of the labours of the Executive Committee as set out in the Programme of the Congress, and went on to read a statement briefly summarising the proceedings of the Committee and the arrangements that had been made for the instruction and entertainment of the Congress.

Brief replies to the President's Address were then made by the following representatives of foreign countries:—

Austria, Prof. Otto Wagner; Belgium, Monsieur J. J. Caluwaerts; Denmark, Etatsraad Vilhelm Dahlorup; Holland, Mynheer J. T. Cuypers; France, Monsieur H. Daumet; Germany, Herr H. Muthesius; Greece, M. A. Metaxas; Hungary, Monsieur J. Berczik; Italy, Prof. d'Andrade; Japan, Mr. S. Chujo; Portugal, Senhor Ventura Terra; Russia, M. Robert Böker; Spain, Señor Don Velasquez Bosco; Sweden, Prof. Clason; United States, Mr. George B. Post.

Some of the speeches were in English, others in the language of the country represented. All spoke of the pleasure the delegates had in visiting England, of their appreciation of the honour of being chosen to represent their country, and of their cordial wishes for the success of the Congress. M. Caluwaerts (Belgium) congratulated English architects on their modern buildings in which, he said, they showed themselves worthy followers of their great forerunners, and he referred particularly to the splendid collections in the London museums. M. Daumet (France) congratulated us on our unrivalled collection of classic work in the British Museum, and the benefit which must accrue to students from the study of such superb models. Herr Muthesius (Germany), who spoke in English, said that German architects knew especially how much the world had to learn from England in domestic architecture from which ideas were emanating and revolutionising the world of architecture; and he suggested that the foreign representatives should be shown specimens of the best English domestic architecture of the day. Mr. S. Chujo (Japan) said that architecture had to play its part in the change that Western civilisation had brought about in Japan. The Institute of Japanese Architects, he said, would watch the development of architecture in their country, and strive to influence it in the proper direction. He hoped to see a future Congress in Japan and to see there all those assembled at the present Congress. M. Böker (Russia), who spoke English without any trace of foreign accent, said he knew from past experience how warmhearted and sympathetic was the welcome the hospitable English invariably extended to all foreigners, and he could not help feeling impressed by their cordial reception on the present occasion. Professor Clason (Sweden) referred with admiration to the taste and skill displayed by the English in their architecture; he observed with pleasure how the designs were based on historical tradition combined with rational construction.

The Duke of Argyll's Inaugural Speech.

The Duke of Argyll, in his opening remarks, said he should emulate the brevity of the foreign delegates, whom, on behalf of the Home Section of the Congress—and the Princess associated herself with him—he most cordially welcomed, and he hoped they would spend a very pleasant time in England. The Princess had never been so greatly daring as to make designs and become the architect of any great building, but it had been her pride to interest herself in the sister art of sculpture. It was a very great pleasure to converse with an architect, for in doing so one had a feeling as if one were building a house—one of the joys of this life. It was a joy if one built it with one's own gold, and so much the greater joy if one could build it with one's friends' gold, and if one could dip one's hand into the Treasury and build it with the money of the public purse, that was the supremest joy of all! Architecture was a great art, one which allowed of no shirking. There was no such thing as impressionist architecture. It was an art which was thorough, real, and earnest. He did not think they need be ashamed of what they could

show their friends from abroad in the shape of English architecture, notably perhaps in church architecture. One of the greatest of American generals, when asked what he liked best in his recollections of the old country, said, after a pause:—"The seven lancet windows of York Minster." But in other buildings he thought we could hold our own, as we did in that Guildhall, and under the shadow of the fabrics erected by Wren and by Barry. We must, however, remember the country from which so much of our inspiration came—namely, Italy. It was, after all, not so very long since we were a province of Rome, and beneath the surface of this country, if one were to dig down, there would be found any amount of Samian pottery and other indications of the Italian people whence we got our inspirations. They on their side were indebted to the colonists who came to them from Egypt and also from Greece. When they thought of Italy, they must think of the magnificent mediæval fortresses and fortress-houses in Genoa, in Florence, and in Rome. And then, again, when they thought of France, let them think of those marvellous châteaux on the Loire and elsewhere. Let them think, again, of the triumphs of Spain, of the Escorial, and of other magnificent buildings, not to speak of those in the Low Countries nearer home. In the future it might be surmised that in our domestic architecture we should be compelled by our motor-omnibuses and our traction engines to go back to a more ancient system of architecture—namely, rooms within a court. And there was another great development which he did not think had been alluded to—*i.e.*, in buildings which could not strictly be called architecture—and that was in the curious fabrics arising here and in America, buildings in a steel cradle. We had had experience recently in San Francisco of the disastrous effect of earthquakes on buildings, and such structures as these seemed to stand earth tremors better than others, and it might be that buildings would be built like the earth itself, with rock and with steel running through it, and buildings of this kind might become a feature of future architecture. He hoped they would meet the present company again—in another country, if not in this.

On the motion of Sir Aston Webb, R.A., a vote of thanks was passed by acclamation to the Princess and to the Duke of Argyll for their kind interest in the Congress, and to the Duke for his remarks at the inaugural ceremony.

The Duke briefly replied, and mentioned that by the courtesy of the Lord Mayor and Corporation the Guildhall Art Gallery, containing a valuable collection of works of Belgian painters, was thrown open to members, and could be forthwith inspected.

At the close of the proceedings the foreign representatives were successively presented to the Princess, who graciously tendered her hand, intending to shake hands; the delegates, however, one and all bowed low and kissed the Princess's gloved hand.

A large number of the members availed themselves of the opportunity to visit the Art Gallery and see the Belgian pictures there on view.

Soirée at Burlington House.

At the reception held in honour of the Congress by the President and members of the Royal Academy at Burlington House on the evening of the opening day, some three thousand guests were present. The staircases were beautifully decorated with palms and flowers, and the band of the Royal Artillery, under Cavaliero Zavertal, was in attendance, and played in the Lecture Room. The guests were received by Sir Edward Poynter, P.R.A., and

the Duke of Argyll again honoured the Congress by his presence at the function.

The foreign visitors expressed themselves delighted with their entertainment, and not least with the opportunity of inspecting the year's show of Academy pictures under such agreeable conditions.

Reception at the Mansion House.

On Tuesday evening, 17th July, members of the Congress were the guests of the Lord Mayor of London, Sir W. Vaughan Morgan, Bart., at the Mansion House. The guests on arriving were received and welcomed by the Lord Mayor and Lady Mayoress, attended by some of the principal City dignitaries in their robes of state. A numerous and distinguished company had been invited to meet the visitors, and the scene presented in the noble Egyptian Hall and Ball-room was a strikingly brilliant one. Some vocal music was excellently rendered by Misses Macleod and Cook and Messrs. Sidwell Jones and Rainger, and selections of instrumental music were performed at intervals during the evening by Herr Stanislaus Wurm's Orchestra. Needless to add, the traditional hospitality of the Mansion House was fully maintained on the occasion.

The Institute Garden Party.

On Thursday, 19th July, the Institute entertained the Congress at an evening fête held in the Gardens of the Royal Botanic Society. The President, supported by several members of the Institute Council, received the visitors at the entrance of the large Conservatory, near the Broad Walk, from 9 to 10 p.m. The gardens were brilliantly illuminated with limelights, and beautifully decked with Chinese lanterns hung from tree to tree. Particularly effective were the innumerable tiny lamps glittering amidst the dark foliage of the trees.

By kind permission of Colonel Fenwick, the magnificent band of the Royal Horse Guards Blue played in the gardens throughout the entire evening under the direction of Mr. Manuel Bilton. A compliment much appreciated by the foreign guests was the performance by the band of the National Anthems of the various countries represented at the Congress. In the Conservatory a selection of music was exquisitely rendered by the "Ladies' Salon Quintet," a piano and a quartet of strings played by lady artists led by Miss Maud Aldis. A further attraction in the gardens was the pastoral play "A Midsummer Night's Dream," performed by Mr. Patrick Kirwan's troupe of "Idyllic Players," the Singing Fairies being personated by Messrs. Bellow and Stock's Choir. Refreshments were served in the Marques on the East Lawn of the Gardens.

During the evening a pleasing little ceremony took place in the Committee-room of the Gardens. Assembled in the room were Mr. Belcher and some members of the Institute Council, when M. Daumet, accompanied by several of his distinguished colleagues, advanced and presented to Mr. Belcher a replica of the beautiful medal of the "Société des Architectes diplômés par le Gouvernement," as a gift from the Société to the Institute in memory of the occasion. On the obverse of the medal was inserted a small panel bearing the inscription "A l'Institut Royal des Architectes Britanniques.—VII^e Congrès International des Architectes à Londres 1906." The gift was accompanied by a graceful little address from M. Daumet in French, which was suitably acknowledged by the President. The medal, it may be mentioned, was on view at the President's "At Home" on the 23rd ult., and is now deposited in the Library [see illustration below].

The Garden Party was undoubtedly a great success, and seemed to be keenly enjoyed by the foreign visitors, especially by the French. Altogether 1,200 guests or more were present.



MEDAL PRESENTED TO THE INSTITUTE BY THE FRENCH SOCIÉTÉ DES ARCHITECTES DIPLOMÉS PAR LE GOUVERNEMENT.

THE VISITS.

The various excursions arranged for the Congress included visits to Hatfield House, by the kind consent of the Marquis of Salisbury; Hampton Court Palace; Windsor Castle and Buckingham Palace Gardens, by His Majesty's gracious consent; Westminster Abbey; the works of the building contractors, Messrs. Holloway, and the potteries of Messrs. Doulton; St. Paul's Cathedral, the Temple, St. Bartholomew's, and the Institute of Chartered Accountants; Oxford and Cambridge (all-day visits); the Tower of London, Victoria and Albert Museum and Royal College of Science, Bridgewater House, Greenwich Hospital, Houses of Parliament, and the Roman Catholic Cathedral of Westminster. The following reports are mainly contributed by the gentlemen who kindly undertook the charge of the various visits.

HATFIELD.*—Tuesday, 17th July.

On Tuesday a large party of members, numbering between 500 and 600, journeyed to Hatfield by special train from King's Cross. Brilliant weather favoured the visit.

The party was received at the entrance of Hatfield House by Colonel Balfour, who very kindly gave a short historical account of the mansion, pointing out various features of interest. The members were then divided into batches of about thirty and conducted through the principal rooms.

The beautiful gardens were seen to great advantage, and were probably appreciated quite as much as the house.

Other points of interest were the old banquetting-hall with its fine open-timber roof, now used as a stable; and the adjoining church, &c.

An ample tea was provided in two or three of the hotels and inns in the town, after which the party returned to town, arriving about 6.30.

HENRY T. HARE.

HAMPTON COURT.—Tuesday, 17th July.

The Hampton Court visit was attended by nearly 300 members, and under the able guidance of Messrs. Maule and Chart and their assistants, the party were enabled to see a very great deal of the beautiful building in a short time, also to have tea at the riverside hotels in time to catch the train back. The visitors seemed most to enjoy the splendid collection of pictures in the Georgian rooms and the grounds with their charming vistas and well-kept beds and lawns.

HENRY TANNER, JUN.

BUCKINGHAM PALACE GARDENS.—Wednesday, 18th July.

This visit seemed to be one of the most popular of all, as between 450 and 500 members of the Congress were present, and the crowd waiting in Grosvenor Place for the opening of the gates must have been a surprise to passers-by, who no doubt thought that a royal procession was about to pass.

The King was not at the Palace, but the Queen was in residence, though nobody was fortunate enough to see her. The members were not admitted into the building, but all seemed to enjoy the stroll through the gardens

very much, to judge by the amount of urging that the tail end of the party needed to get them to the exit, which was at the front of the Palace, where buses were waiting to take them to Westminster Abbey.

HENRY TANNER, JUN.

MESSRS. DOULTON & Co.'s WORKS.

Wednesday, 18th July.

The works of Messrs. Doulton & Co., Limited, are on the southern bank of the Thames, adjoining Lambeth Palace, the seat of the Archbishop of Canterbury. They cover an area of some acres, the different sections being devoted to the separate manufactures of architectural terra-cotta, sanitary stonewares, sanitary fittings in metal and wood, crucibles, household pottery, &c. The section of the Lambeth Works open for inspection comprised the showrooms, the studios, and the factories for stoneware and architectural terra-cotta.

The visit was attended by some 350 members of the Congress, including many ladies, and great interest was shown in the various processes which were seen in operation. Here was the bench where the potter working at his wheel takes a shapeless lump of clay and, with a dexterity more wonderful than any sleight-of-hand, moulds the material to the shape of close-necked jug of sturdy proportions or slender vase with delicate rim; while in another part of the building were women applying moulded ornament in relief or laying on the pigments that when burnt produce those rich and varied colours which distinguish the "Doulton" ware.

To architects not the least attractive part of the visit was the opportunity afforded of not only seeing the methods adopted in the design and execution of wall decorations such as painted tile-panels, but also some of the latest refinements in the application of sanitary science to hospital and domestic uses.

In the course of the route taken through the factories, a certain number of ware kilns were seen, some being filled and others emptied of their contents. The largest kilns take about fourteen days to "set and draw." Here each week some 30 miles of stoneware pipes are turned out, 2,000 tons of clay used, and 1,700 tons of coal consumed.

Messrs. Doulton, not unmindful of the comfort of their visitors, had provided tea and light refreshments, which were much appreciated on that hot afternoon in July. The members returned by motor omnibus to the northern side of the river, the visit being completed at about 6 P.M.

A. MARYON WATSON.

MESSRS. HOLLOWAY BROTHERS (LIM.).

Wednesday, 18th July.

The inspection of these premises at Belvedere Road, despite simultaneous attractions at Lambeth, was well patronised, and the members who availed themselves of Messrs. Holloway Brothers' hospitality were amply rewarded.

Entertained to tea on arrival the visiting party split up into small sections, and under the leadership of the members of the staff made a tour through the shops and yard. In some cases, oblivious of the surrounding industry, the guests wandered along the wharf and admired the beautiful river prospect, with perhaps a thought for municipal palaces. In the yard itself the moulding machines, rubbing tables, and powerful stone-cutting saws attracted much attention; while as far as the shops were concerned it was interesting to observe

* In charge of visit, Mr. D. G. Driver, Secretary A.A.

how the foreign members crowded round an example of a sash-window, which was repeatedly lowered and raised for their edification, and before leaving its fascinations quite a number of window-cords were chopped up for presentation purposes and removed as souvenirs.

The complete lesson in building construction to be learnt on these works accounted for the difficulty in persuading the members to leave at six o'clock, and it was only on the positive assurance that the last motor was beginning to throbb its departure that they reluctantly submitted to the kind offices of a gentleman armed with a clothes-brush.

J. MACLAREN ROSS.

WINDSOR CASTLE.—Thursday, 19th July.

So great was the gathering at Paddington Station that a relief train, in addition to the special train, was required to convey the members of the Congress to Windsor. The two trains arrived at Windsor within a few minutes of each other, and the party proceeded at once to the Castle.

The admirable arrangements which had been made at the Castle to deal with so large a gathering made the visit a particularly enjoyable one.

The members of the Congress were conducted through the gorgeous State apartments, where the valuable collection of old masters was much appreciated and the beautiful carvings by Grinling Gibbons greatly admired.

In rapt attention and interest the party were conducted from the State Ante-Room through the Rubens Room, the Council Chamber, the King's Closet, the Queen's Audience Chamber, the Queen's Presence Chamber, and through the great Library into the Guard Chamber, and thence on to the Terrace. The gorgeous sumptuousness of these royal and historic apartments have a living interest which perhaps most strongly appealed to the representatives of our Colonies and republican countries.

After the lovely view had been admired from the Terrace the company proceeded to St. George's Chapel. The fascination of the choir was irresistible. It is here that divine service is held at the ceremony of installing the Knights of the Garter, and the helmets and banners of the living knights hang over the stalls.

The visit here, as perhaps elsewhere in the Palace, was too hurried.

Most managed to get some tea before returning to London, which was reached in time to allow members to prepare for the reception at the President's party at the Royal Botanical Gardens in the evening.

GEORGE HUBBARD.

ST. PAUL'S CATHEDRAL, THE TEMPLE, ST. BARTHOLOMEW'S, SMITHFIELD, AND THE INSTITUTE OF CHARTERED ACCOUNTANTS.—Thursday, 19th July.

The party, which numbered about thirty, assembled at the west steps of St. Paul's Cathedral at 2.30 p.m., and were received by the President. Archdeacon Sinclair conducted us round the Cathedral, and gave a lucid description of the various features, including the Crypt and the Whispering Gallery, the latter being of exceptional interest.

After spending an hour in the Cathedral we proceeded by motor bus to the Temple Church, where we were received by the Master of the Temple, who gave an interesting account of the history of the church, and afterwards conducted us over the halls of the Temple.

The next visit was to the Church of St. Bartholomew the Great, Smithfield, where the party were met by Mr. Alfred Webb, one of the churchwardens, and brother to Sir Aston Webb, R.A., who recently restored the church.

On the way to the Institute of Chartered Accountants we stopped for a few minutes at Winchester House and Electra House, both of which were designed by the President, who explained any details upon which information was asked.

Finally we arrived at the Institute of Chartered Accountants, where Mr. Becher conducted the party over the building. This proved to be one of the most interesting and instructive visits of a very busy afternoon.

An expression of thanks is due to the Chief Commissioner of City Police, who provided the services of Detective Constable Nicholls, whose assistance was most useful with regard to the traffic.

C. E. HUTCHINSON.

KENSINGTON PALACE AND DORCHESTER HOUSE. Thursday, 19th July.

Sir John Taylor met the members in the Broad Walk, Kensington Gardens, and on the way to the Palace conducted them through the Orangery, which is a perfect specimen of garden architecture designed by Sir Christopher Wren, with some internal wood carving by Grinling Gibbons.

The party were then taken over the Palace by Sir John, whose remarks were very interesting, particularly so as all the restoration was done under his superintendence some seven years back. After going through the various rooms (which in some instances were perhaps more interesting from an historical rather than an architectural point of view, although there is some very fine oak panelling and more of Gibbons's excellent carving) the party proceeded through the quaint courtyard past that portion of the Palace in the occupation of the Duke and Duchess of Argyll, round the exterior of the building.

A little garden alcove, evidently Wren's work, was much admired, as was also the statue of our late Queen, designed by her talented daughter H.R.H. Princess Louise.

Thence the party proceeded in motor omnibuses to Dorchester House, where they had a most enjoyable time. The American Ambassador and Mrs. Whitelaw Reid kindly received the members, and their Excellencies' hospitality was greatly appreciated. The marble staircase and fine suite of rooms, with their priceless collection of pictures and furniture, were greatly admired, including the caryatide chimney-piece designed by the late Alfred Stevens.

The members were able to take their own time looking through this mansion, which was designed by Lewis Vulliamy in the style of the Italian Renaissance. Its collection of pictures include examples of the work of Rembrandt, Rubens, Paul Potter, Cnyp, Claude, Hobbema, and other eminent masters.

SEPTIMUS WARWICK.

COLLEGE OF SCIENCE AND VICTORIA AND ALBERT MUSEUM. Friday, 20th July.

Some fifty members visited these buildings, assembling at 3 o'clock at the College of Science, where they were met by Sir Aston Webb, R.A., under whose guidance the various buildings were inspected. We are indebted to *The Builder* for the following description of the visit. Sir Aston Webb first took the party round the College of Science, explaining the special points of construction

for ensuring freedom from vibration in the physics laboratories, and pointing out that while chemical students, as they advanced in proficiency, moved higher up in the building, for the sake of better light, physics students began at the top of the building and descended to the ground floor as they advanced in the classes, as what they required above all things was a solid foundation and freedom from disturbance by vibration. The upper story of the physics department showed the only wooden roof in the building, steel being avoided here on account of its disturbance of experiments in electricity and magnetism. The roof is of sequoia wood, which has been largely used in the building, and looks very well. A gallery has been constructed along the centre of the roof framing, to afford an opportunity for pendulum experiments. In regard to the main staircase, the architect drew attention to the fact that the centre well had been floored over at each level, instead of leaving the staircase hall open to the ceiling; the architectural effect might suffer, but the open staircase hall would have been noisy, whereas the construction of a floor at each level not only prevented this, but also gave the students a convenient place on each floor to assemble when necessary. After looking at the exterior of the building from the opposite side of the road, the party proceeded down Exhibition Road and round by Thurloe Square, in order to get a view from there of the portion of the front of the Victoria and Albert Museum from which the scaffolding is now uncovered. The architecture from that point looks very bright and sparkling in effect, and the portrait sculpture in niches comes out admirably. The niches in this portion of the building are filled with portrait statues of eminent architects; those in the corresponding position on the other side of the facade are to represent sculptors; statues of painters are to fill the centre portion, and statues of craftsmen are to occupy the niches on the return front towards Exhibition Road. On these works sixteen among the most able of the younger sculptors of the day have been employed, each sculptor taking two figures. An important point in regard to these stone sculptures is that the stone out of which they are carved has been built into and bonded to the walls, and the carving then executed *in situ*, so that there will never be any trouble from the failure of cramps and the possible danger of the falling out of a figure in consequence. The party then entered the building, which of course is at present only in a shell state inside; but by reference to a large plan displayed in the centre hall Sir Aston explained the arrangements of the new portion of the building. On entering the central hall the spectator has the whole length of the building visible to him to right and left along the western and eastern courts. The original fan shape of the plan had been departed from when the architectural courts were built with an axis placed at right angles to the line of Cromwell Road at that point; and this occasioned the special treatment of the plan of the front facade, in order to keep the western portion at right angles with Exhibition Road, and at the same time to have the eastern portion at right angles to the axis of the architectural courts. Care had been taken, in setting out the plan, to provide for vistas which might lead up to important works of art. The West Central Court and East Central Court have been planned in a basilica form, with side aisles divided off by columns, the aisles being finished with a cross-vault ceiling, the intention being to place here works of ecclesiastical art in a surrounding somewhat suggestive of a church. There will be no elaborate decoration, however, as the principle throughout the treatment of the interior is that the exhibited works are to be the decoration, and that the building is only, as it were, a

case to contain them. The North-Western Court, a square reduced by the large niches to an octagon, will probably be used for the exhibition of sculpture. The smaller galleries will be used for collections of works of special character—one for silver work, another for textiles, and so on. The walls are all to be finished internally in a substance called "cranham," which, while sufficiently hard, will admit nailing into it for the fixing up of such smaller works or cases as may be hung to the wall. In passing through the building, Sir Aston pointed out that the large arches which form partial architectural divisions, such as those across the western and eastern courts, and those in the entrance-hall, are all of the same centres and dimensions, so as to give a note of unity to the principal features of the interior. After traversing the principal parts of the building, the visitors were invited to a tea provided in the room adjoining the main refreshment-room of the old buildings, when a member expressed, on behalf of those present, their thanks to Sir Aston Webb for his invitation and for his lucid and interesting descriptions.

TOWER OF LONDON.—Friday, 20th July.

Notwithstanding the counter-attractions of Oxford and Cambridge, a fair number of members visited the Tower of London on Friday morning to take advantage of the special privileges the occasion afforded of being shown over various parts of the buildings not usually open to the public.

Every facility for this purpose had been provided by the Chief Constable, to whom grateful thanks are due.

The party, having inspected St. John's Chapel, assembled on the roof of the White Tower. Here Lord Dillon, the Curator of the Tower Armouries, delivered a short but very interesting address, and by the aid of plans and sections explained the buildings, tracing their history and use, especially of the White Tower.

After his Lordship had drawn attention to the chief specimens of armour to be seen in the Tower, and the various characteristics of each, the party divided into groups, and each group, accompanied by a Yeoman warder, made a tour of inspection of various parts, ending up with the Wakefield Tower and Crown Jewels.

The Tower Bridge was then visited, and proved a highly satisfactory ending to the morning's sight-seeing. Through the courtesy of the City Surveyor, Mr. Sidney Perks, a minute inspection of the machinery for working the bascules was possible. Accompanied by the resident engineer, Mr. Gass, a complete tour was made of the bridge, not only to the high level, but also as low down as the bed of the river.

The various operations for lifting the bascules, each of which weighs some 1,100 tons, were carefully described and seen at work—truly an object-lesson in hydraulics those present are not likely to forget.

J. P. FROGS.

OXFORD.—Friday, 20th July.

On Friday the programme for the Congress included visits to Oxford and Cambridge Universities. Fortunately the weather continued to be most favourable.

About five hundred gathered at Paddington, where a special train was in readiness at ten o'clock. Oxford was reached by 11.35, and here the four sections into which the large party were divided, separated. Each group was provided with a separate programme showing its own special route.

The sections were led—one by Messrs. Reginald Blomfield, A.R.A., and H. C. Corlette, and the others by Messrs. E. P. Warren, C. Barry Cleveland, Paul Waterhouse, and Charles Bone. These were helped very much in every way by the unfailing courtesy of all the visitors.

After a pleasant morning spent among the various colleges, luncheon was provided in the halls of Magdalen, Exeter, and Balliol, and at the Randolph Hotel. In each case the visitors were most hospitably entertained.

The entire party assembled at Magdalen afterwards, where there was a reception by the Provost. After being shown through the more interesting parts of the college the visitors saw the gardens, which are at their best at this season. These latter seemed greatly to delight the foreign guests, and altogether this typical college excited great admiration.

After this the several sections proceeded to the brakes, and continued the visits as arranged on their respective programmes.

In every case the kindness with which the visitors were received at the various colleges, and shown over the buildings and gardens by some members of the college, was most keenly appreciated. This ready hospitality was acknowledged with many hearty thanks in the speeches made before the several luncheon parties separated, and by individual acknowledgment on every hand during the day. To Mr. Charles Bone is especially due the thanks of the whole party, for it would have been impossible to arrange for the comfort of so many had it not been for the skill in detail of organisation and the great amount of time and energy he devoted to the success of the Oxford visit.

H. C. CORLETTE.

CAMBRIDGE.—Friday, 20th July.

On Friday a large party from the Congress visited Cambridge. Though the morning was dull and threatening, the first arrivals made their appearance at St. Pancras nearly an hour before the train was due to leave, and until the moment of departure, nearly twenty minutes late, more members continued to arrive. Luckily for us, the weather cleared during the journey, and we drove down to the Senate House in bright sunshine. Here we were received by the Master of Trinity, acting for the Vice-Chancellor, who was unfortunately away from Cambridge. The foreign delegates were presented to him, and he then delivered a short but characteristic address of welcome. We then proceeded down Trinity Street, where one or two old house-fronts came in for a good deal of notice, to the great gate of Trinity. Dr. Cunningham received us here, and conducted the party over the College, showing us, among other things, the early front of the buildings facing the bowling green, lately discovered and restored, the chapel, kitchens, and hall, and so along the famous lime tree avenue to the Fellows' Garden, looking its best in the sunshine. Then the party drifted towards lunch, a large number visiting *Caïus en route*; and divided into three, the largest number, with the President and the Master of Trinity, going to King's, and smaller parties to Clare and Trinity Hall.

After lunch there was a short rest, devoted by many of the foreign members to the purchase of photographs and picture post-cards, and then we reassembled in King's Chapel, where the Provost explained the history and origin of the building and the College. Speaking in French for the benefit of the numerous French and Belgians among the party the Provost said:—

“La Chapelle de King's College est le seul parmi nos bâtiments qui ait été achevée en conformité avec les

projets de notre fondateur, le roi Henri VI. C'est le roi même qui a posé la première pierre de cet édifice, le jour de la fête de St. Jacques, 25 juillet 1446 (il y a juste 460 ans). Grâce aux guerres civiles si désastreuses qui désolaient notre pays, la maçonnerie du bâtiment n'a pu être achevée avant l'an 1515. Encore vingt ans et les vitraux et les boiseries étaient en place. Le roi Henri VI a donc commencé la construction. Le roi Richard III y a contribué. Le roi Henri VII à la fin de ses jours a repris l'ouvrage interrompu; c'est lui qui a complété la construction en pierre. C'est au roi Henri VIII que nous devons nos vitraux et la plupart des boiseries. La chapelle ne devait pas être isolée comme on la voit. Elle aurait dû être liée avec des bâtiments constituant une grande cour quadrangulaire, de sorte que, vue aujourd'hui, sa régularité est excessive. Quelques mots seulement sur autant de points frappantes. Comme construction on trouve des ressemblances entre la chapelle et la magnifique basilique de Sainte-Cécile d'Albi. Même absence de bas-côtés, même disposition de chapelles entre les contreforts. Les blasons qu'on voit sur les contreforts et qui revêtissent les murs de la nef sont ceux d'Henri VII, non pas d'Henri VI. La grande voûte selon le projet du fondateur était destinée à recevoir un coloris très éclatant: les nervures dorées, les clefs de voûte peintes, le fond bleu. Les vitraux datent des années 1515 à 1534. Quatre étaient l'ouvrage d'un certain Barnard Flower, peintre-verrier du roi. On compte parmi ce nombre le deuxième, au-dessus de la porte du nord, et celui aussi qui est maintenant sous réparation. Les ouvriers des autres étaient domiciliés à Londres. Les noms de quelques-uns paraissent être flamands, mais la plupart en sont anglais. L'ouvrage tout entier fut fait à Londres. Les sujets des vitraux sont tirés de l'histoire de la Sainte Vierge, de notre Seigneur et des Apôtres. Dans la plupart des fenêtres on voit en bas les événements du Nouveau Testament et en haut des scènes typiques tirées du Vieux Testament. La série rappelle vivement les tapisseries de la Chaise-Dieu en Haute-Loire.

“*Les Boiseries.*—Le jubé qui porte le monogramme de la malheureuse reine d'Henri VIII Anne Boleyn date de 1532 à 1536. Le sou bassement des stalles est de la même époque. Les armoiries furent ajoutées en 1633. Les dais, exceptés ceux du côté du jubé, étaient faits environ 1675-1680. Le buffet d'orgues est en partie du temps d'Henri VIII, mais la plupart fut posée en 1606.”

Then occurred the one variation from the printed programme that had been distributed; instead of picking up the brakes again at the gate of King's, the party walked along Queens' Lane, and through Queens' College, where the delightful Cloister Court came in for a full measure of praise, and so over the geometrical bridge to the garden gate, where the brakes were waiting to drive us along the Backs. Coming to the back gate of St. John's, we walked through the courts, and were shown the library, combination room, and chapel, and so came again to the brakes, which were waiting for us at the Round Church. The first two or three brakes, getting away rather ahead of the others, made a round through Downing Street to see the new science buildings; the others went straight up St. Andrew's Street and Regent Street to the station, where the refreshment rooms coped more or less successfully with the heavy demands for tea. That the arrangements worked so smoothly throughout was mainly due to Mr. Fawcett, who managed all the preparations at Cambridge; to Messrs. Cook's representative, and to the co-operation of a large number of the English members, who were always ready to help in any way that was necessary.

G. F. BLACKBURN DANIELL.

GREENWICH HOSPITAL.—Saturday, 21st July.

On Saturday afternoon, 21st July, about 250 members paid a visit to Greenwich Hospital. The journey was made by river, and a special steamer conveyed the party to Greenwich.

They were met by Mr. A. L. Perfect, Civil Engineer for the Admiralty in the Greenwich District, and Mr. Edgar A. Hawkins, A.R.I.B.A., of the Admiralty, who had most thoughtfully provided a large-scale site plan of the Hospital.

Mr. Hawkins, before proceeding to conduct the members round, gave them a very interesting description of the buildings and their history.

A visit was first paid to the chapel; after this the Queen Anne's quarter was seen, where the visitors were most interested in the old crypt to the church of the Palace of Placentia.

After walking round the buildings and through the courts to see the elevations of the various blocks, the Painted Hall was visited, the members being especially interested in the paintings and the pictures.

By the courtesy of the authorities, the party were allowed to inspect the collection of original architectural drawings, some of them being by Sir Christopher Wren.

They then visited the School with its various buildings, and also the Queen's house. The old Ship in the Fore-court was viewed with great interest.

Time did not allow the visitors to walk through the park to the Observatory, and after partaking of tea at the Ship Tavern the party returned again by boat to Charing Cross.

Not the least interesting part of the afternoon was the journey up and down the river, which enabled our visitors to see many buildings of interest and also the busy life of the river.

F. DARE CLAPHAM.

HOUSES OF PARLIAMENT AND WESTMINSTER HALL.— Saturday, 21st July.

On the occasion of the visit to the Houses of Parliament the buildings were closed to the general public—a circumstance peculiarly favourable for the inspection by a body of architects. The members of the Congress, some 300 in number, assembled at the Victoria Tower, and, passing into the Palace, were met at the head of the broad stairway from the Norman Porch by the State and Office of Works officials. An announcement was made that Captain Butler, Yeoman Usher of the Black Rod, was present on behalf of the Lord Great Chamberlain, by whose permission the visit had been arranged; also that Sir Henry Tanner, I.S.O., principal architect of H.M. Office of Works; Mr. J. B. Westcott, M.V.O., architect in charge of the Houses of Parliament; Mr. Patey, resident engineer; and the Clerk of Works, Mr. Ridge, each with a staff of assistants, were there to render any services that might conduce to the usefulness and interest of the visit. After a formal introduction of the Congress the visitors entered upon the tour of the Palace. Captain Butler, assisted by Mr. Williams, Superintendent of the House of Lords, explained the many interesting features of the various chambers and apartments. The Congress passed through the King's Robing-room to the Royal gallery, the scene of many now almost historic pageants, thence through the Princes' Chamber, in which the portraits of the wives of Henry VIII. were seen. Entry was then made to the House of Lords. The Upper Chamber appeared to have a piquant interest for our Republican and Democratic visitors. The Throne was uncovered, and the "Wool-sack" and the various sections of the chamber occupied

by the Princes and Peers of the realm were pointed out, and then a move was made to the Central Hall. The famous "Moses" fresco by Herbert, and those not less beautiful by Cole, in the Commons' corridor were viewed *en route* to the Commons' Lobby, and then the "House" itself was entered. The seating accommodation for 670 members was evidently a matter of much wonderment to our foreign visitors, in view of the fact that one section of those present, some 150 in number, alone appeared to fill the House. After a tour of the division lobbies a move was made to the interesting fan-vaulted corridors, used as cloak-rooms by the members of the House; thence to the crypt of St. Stephen's Chapel, and the Congress had at last come upon the much-looked-for "antique." The crypt, originally known as the Chapel of St. Mary in the vaults, many years in building, was finished about 1350, in the reign of Edward III. All that now remains of the original St. Stephen's Chapel is still in excellent preservation; the decoration, of course, is modern. Westminster Hall now demanded the attention of the Congress, full as it is of its own grandeur and of many historic associations. Here Sir Henry Tanner sketched a short history of Westminster Hall, drew attention to interesting features, and recalled the dates of building. There now remained to be accomplished a visit to the cool shades of the Terrace by the river, and the route thereto through the many internal courts disclosed abundant evidence of the skill that Barry bestowed on every part and detail of his great work. Throughout the visit Captain Butler and all officially connected with the Palace of Westminster afforded the Congress every reasonable facility and the fullest information. The work of interpretation to the foreign delegates was effected by the willing help of Mr. C. L. Veale and Mr. W. H. David, of H.M. Office of Works. It seemed to be the opinion of the members of the Congress that the visit to the Palace of Westminster had proved most interesting and successful; certainly it was evident that the foreign delegates had found much to admire in the national monuments of which all English-speaking races are very proud.

SYDNEY B. BEALE.

BRIDGEWATER HOUSE.—Saturday, 21st July.

This visit proved to be a very popular one, upwards of three hundred members and others going over the house in the course of the morning. Bridgewater House, erected in 1848, from the designs of the late Sir Charles Barry, is in itself interesting as a good specimen of modern English architecture. In the centre of the house is a large hall, surrounded, on the upper floor, by an arcaded and richly decorated gallery.

The chief attraction, however, is the fine collection of pictures by Raffaele, Titian, Nicholas Poussin, Rembrandt, Velasquez, and many others. By the extreme kindness of Lord Ellesmere, the members of Congress were enabled to see everything, even in the private rooms.

G. F. COLLISON.

THE CONGRESS BANQUET.

The Farewell Banquet was held in the Victoria Rooms of the Hotel Cecil on Saturday, the 21st ult. Covers were laid for nearly five hundred guests. This being about as many as the dining-hall could comfortably accommodate, the dinner-list had had to be closed some few days beforehand, and numerous applications for tickets had had to be refused. The foreign delegates were all accorded places of honour at the tables, and among other guests at the high table besides the President and Mrs. Belcher were the Duke of Northumberland, the Netherlands Minister, the Greek Minister, M. and Mme. Metaxas, Sir Lawrence and Lady Alma-Tadema, Sir William and Lady Emerson, Sir Henry Tanner, Sir John Taylor, Sir Aston and Lady Webb, M. Daumet, Mr. George B. Post, Herr Otto Wagner, Dr. Muthesius, M. and Mme. Caluwaers, M. and Mme. Benoist, &c.

Presiding at the lower tables were Mr. Alexander Graham, *Hon. Sec. R.I.B.A.*, Messrs. John Slater, Edwin T. Hall, J. S. Gibson, Reginald Blomfield, A.R.A., M. Nénot, H. Heatheote Statham, Maurice B. Adams, H. V. Lanchester, W. A. Forsyth.

The cover of the menu card was very kindly designed for the Congress by Sir L. Alma-Tadema, R.A., and represented Architecture with her sister arts Painting and Sculpture. A reproduction to somewhat smaller scale accompanies this number.

Grace was sung and a selection of glees rendered during the evening by "The Westminster Singers." The toasts were limited to the usual loyal toasts, the Foreign Delegates, and the Royal Institute of British Architects.

In proposing The King, the Chairman said that His Majesty had done a great deal in the interests of peace, and peace was a necessary condition if the arts were to flourish. Long may we all enjoy the blessing of peace, Mr. Belcher concluded, and may the reign of His Majesty be distinguished by a great advance in the art of architecture!

Sir William Emerson, in proposing "The Foreign Delegates," said that their presence in England had afforded infinite satisfaction and pleasure to their hosts. The result of the Congress, the success of which had been greatly due to their friends from other countries, would be productive of good in the highest sense of the word—good not only to the architectural profession, but good to humanity at large. Sir William, after a reference to the important discussions that had taken place, said that the Congress had also had the effect of bringing together and creating intimate acquaintance and friendship with many men of many countries, and in relation to the widespread feeling of a universal *entente cordiale* it must be greatly encouraging to such a sentiment, for we learn by such meetings as these that in every country, no matter what it might be, there were equally thoughtful, unselfish, good, clever, and kindly personalities; in fact we found them one and all what in common English parlance we called "jolly good fellows." It was only to be regretted that, with so many various schemes for our mutual edification and for the entertainment of our visitors during the week, the time had been far too short for them to see much of the interesting old and historic architectural monuments of the country. Many beautiful old country mansions and halls would have been well worth a visit, and, of course, only a few of our castles, cathedrals, and abbeys could possibly be examined. Still, the best possible had been done to show the most in the shortest time. One thing at least we had as Englishmen learned from our distinguished visitors, and that was how great a charm there was in

the felicitous expression of nice feeling and sentiment as conveyed in their many charming short speeches. The British did not, as a rule, express themselves with ease and felicity at a moment's notice, whilst our Continental friends invariably did so in the happiest manner; nevertheless, the inner feeling of the Britisher was no less warm. He could only repeat that it had been a source of the greatest pleasure to see their professional brethren, and he trusted they would take away with them a reciprocal feeling of the truly cordial and warm sentiments of respect and esteem which Englishmen entertain for them, and he was sure he was right in saying that all would endorse his expression of these sentiments.

The toast having been drunk with enthusiasm, the various delegates replied, for the most part in their native tongue. Space will admit of only a few notes of the speeches. As each delegate replied, his fellow-countrymen stood up, and at the close of the speech cheered after the manner of their country.

M. Daumet, who spoke in French, said they had spent a memorable week in London. The International Congress of Architects would leave pleasant memories to those who had been fortunate enough to take part in it, even though the meetings were somewhat confusing to those who did not possess the gift of tongues. What gratitude they owed to its honourable President and those who aided, and to the amiable and obliging Secretary! Those gentlemen had been able, with perfect understanding, to foresee and provide for everything, and they had imparted to the stay of their guests a special element of cordiality. The inaugural meeting of the Congress in the Guildhall was particularly fine and imposing, and the receptions at the Mansion House and Burlington House were most brilliant, while nothing could have been more charming than the excursion to Windsor—that picturesque whole to which each sovereign of Great Britain has for centuries added his share, and in which are stored so many historic remembrances and priceless treasures of architecture and masterpieces of great painters. They should not soon forget the hours spent in those University towns, where scholarly traditions had produced the lights of science and literature in buildings of characteristic architecture. They would remain charmed and subjugated by the variety of aspect presented by halls constructed with such art, by the beauty and poetry of gardens with their lofty trees, which had sheltered so many of the illustrious sons of this fair country. It was impossible to analyse so many and varied impressions without turning their thoughts to those who founded or encouraged such great institutions and the monarchs who had protected them. Concluding, the speaker proposed a toast to the everlasting concord and friendship between artists, to the architects represented by their delegates, and, finally, to the King and to the august Princes and Princesses of his family, the protectors of our art, which they had deigned to honour by becoming patrons of the International Meeting, which came to a close this evening in a brotherly feast.

§ M. Böker (Russia) said that on behalf of the Russian members of the Congress, which had been brought that day to so successful a termination, he begged to offer their most hearty thanks for the warmth and cordiality of the reception which had been accorded them in England, and the memory of which would never fade from their mind. They would have much pleasure in telling their friends in Russia of the kindness that they had met with in England, and of the magnificent productions of architectural art, both ancient and modern, which they had had the pleasure of admiring. It was difficult for him to find words eloquent enough to express the gratitude they felt, but he trusted that their thanks might make

up by their depth and sincerity what they lacked in eloquence of expression.

Mr. G. Oakley Totten (America) said that, on behalf of his countrymen, he desired to express to their cousins of Great Britain their sincere appreciation and thanks for all the courtesies which had been so graciously and cordially extended to them. The debt America owed their mother country, from whom they had inherited their customs, literature, laws, and the language, which they were said to speak indifferently well, was almost beyond measure. It was to her, too, they owed the best they had in art, that which came to them by inheritance at the time of George III.—which they called Colonial—which they called their own. For the inspiration of their monuments they must ever turn to the glories of Athens and the splendour of Rome; but for the inspiration of that which was most near and dear to their hearts, the home, they must look to good old England, the creator and builder of the home.

Mr. Cass Gilbert, of the American Institute of Architects, in proposing the toast of "The Royal Institute of British Architects and its President," said that he, the representative of the youngest nation, had been selected to lay this tribute of homage at their feet in the country to which they looked for representative government. It had been said in his country that they should have a national art, and the feeling had grown that they should express themselves in their own way; but while they had no apologies to make for what they had done, humble as might be their own opinion of it, they thought the time had not yet come for them to have an art of their own. They had unusual conditions in their practice, and perhaps they met those unusual conditions with a certain ingenuity, but with a certain lack of that quality which made a great art. Americans came to Europe to study in France, Germany, Greece, Italy—to all the great nations of the world. They might go as far as Japan for inspiration in that personal art which was so beautiful. Seventy-two years ago the Royal Institute of British Architects was founded, and the time therefore approximated to their time as understood in a little story that he would venture to tell. One of their landscape artists, Mr. Armistead, having planned a great estate, visited the owner, who said to him: "Mr. Armistead, this is a beautiful thing you have done, but there is one defect in it. That knoll over there is a little barren. What would you do with it?" Mr. Armistead's reply was: "I would plant it with oaks." "But," said the owner, "that is a matter of sixty years." Said Mr. Armistead: "I was looking sixty years ahead." It was that sentiment which inspired them. They were looking sixty years ahead. Those who founded the Institute were looking sixty years ahead, and could they see them that night—in all the glory of that assembly, with all Europe represented there; and see some of the finest men of the Continent and elsewhere who had come to do honour to their profession—he thought their pleasure would be very great. A great Archbishop once said: "There is a time when the truth should be told: let us praise ourselves." He (the speaker) had come to praise

the Royal Institute of British Architects. He ventured to hope that the Institute would go forward in the great work it had started. They had laid the foundations in America at least of that tradition of practice which made for equity between man and man. Upon the Statute of the Practice and Charges of American Architects had appeared for twenty-five years the scale adopted by the Royal Institute of British Architects, and that American architects had followed. To the Institute they looked, and he begged them to go forward in their great work—work of which they had seen ample evidence in England. Might the future bear out the promise of the past!

Mr. Belcher, in reply, said it was gratifying to the Institute to know that the Congress had been successful, and that all had derived some pleasure by their visit to London. This was mainly due to Mr. Locke (the Secretary) and the staff of the Institute. As to the Institute, it might interest visitors to know that they showed in a practical way their union with their brother architects of every country, by nominating as recipient of the Royal Gold Medal, which the King annually bestows, upon an architect of eminence or one who has furthered the art, irrespective of nationality. They also showed their close relation with the profession everywhere in that they had over sixty honorary corresponding members—men of great eminence in their respective countries, of whose association the Institute was justly proud. They might further claim to be a great fraternity, enjoying the same privileges, possessing the same treasures, with hearts filled with the same joy and pride as they contemplated the *chefs-d'œuvre* scattered over the world. They might speak different languages, but architecture was a language which every man could read in his own tongue. There were many of these works which they all admired that they must endeavour to protect for the benefit of posterity. He wished to thank them on his own behalf for the consideration and kindness which had been extended to him during the Congress, as well as for all the kind remarks made. It had been a great pleasure to him to preside on this memorable occasion and to find himself surrounded by such distinguished delegates and brother architects, and he should cherish the memory of the honour. He could truly say, on behalf of every British architect, whether members of the Institute or the Allied Societies or others, that their hearts had gone out to their visitors. The ties of brotherhood had been strengthened by the visit, and though they now had to part they were constrained to say *Ad revoir*.

Final Meeting of the International Permanent Committee.

The International Permanent Committee held a final meeting in the rooms of the Institute on Saturday morning, the 21st. The two Chairmen were Messrs. H. Daumet (France) and John Belcher (England). Among the questions before the Meeting was that of the place and date of the next Congress. It was finally resolved to hold the Congress in Vienna in the year 1908.

SUBJECTS DISCUSSED AND RESOLUTIONS PASSED BY THE CONGRESS.*

SUBJECT I.—THE EXECUTION OF IMPORTANT GOVERNMENT AND MUNICIPAL ARCHITECTURAL WORK BY SALARIED OFFICIALS.

Tuesday, 17th July.—Institute Meeting Room.

Chairmen: Señor E. M. Repullés y Vargas (Spain); Mr. John Slater (England).
Hon. Secretaries: Herr Hans Peschl (Austria); Mr. Harbottle Reed (England).

1. By OTTO WAGNER (Vienna), Imperial and Royal Superintendent of Works; Professor of the Imperial and Royal Academy of Plastic Arts. (On behalf of the Society of Austrian Architects.)

[From the German.]

It will be convenient to give first a clear definition of the word "architect" and also some explanation of the process of development of the architect, because all the differences of opinion are more or less rooted in the wrongful acceptance of these conceptions.

With regard to the way in which the architect is developed, it must be taken into consideration that artistic capacities, such as manual proficiency, imagination, taste, individuality, and a certain gift for invention, are faculties which the architect must possess in his quality as an artist, but which cannot be learnt. On the other hand, there are a general culture and a technical and constructive knowledge, which the architect must also possess, but which can be acquired by study.

The amount of scientific knowledge to be acquired by the architect has reached such vast proportions that it has to be divided into parts, consequently into branches of knowledge. For this reason alone it is not possible for the young man who wants to become an architect to acquire full knowledge of all these special branches, since the time at his disposal, and the intellectual receptivity of the individual, are limited.

The architect, during the whole of his professional activity, will cultivate first of all the region of art, which nowadays even in literature has become of a very wide range. But as at the same time he is expected to have full knowledge of all technical innovations, his technical and scientific education should extend so far that he will be able to understand the essence of the sciences and their progress, and that this understanding will enable him in his practical work to put the results of human progress at the service of art.

His technical education must, moreover, enable him to choose the proper methods of construction and the most convenient materials to be employed. Nay more, his knowledge, aided by his inborn inventiveness, must enable him to combine new forms of construction, or to vary existing ones so that they shall answer fully the purposes for which they are required. From this it follows that the practical work and experience which the architect gains in the course of his career must be based upon a sufficiently wide knowledge.

Only after having acquired a complete technical education, can the question be decided whether the aspirant to the profession of an architect possesses those inborn qualities from which may be anticipated success in following this career.

There is, therefore, a sharply marked limit in the course of education of the architect. This limit, as already said, lies naturally between the acquired complete technical education and the entering into an academy of plastic art.

It is the duty of the academy, or rather of the professors teaching in such an institution, to examine and to decide whether or not the student possesses the inborn faculties enumerated above.

It cannot be too strongly recommended to such professors to use the utmost severity in this examination, because the result of it will have a great influence upon the general artistic standard of the profession, and because it is only by this method that that class of pseudo-architects who in our days intrude on the profession, to the discredit of art as well as artists, can be made to disappear from the scene.

We take the liberty to advise those civilised States, the schools of which make it possible to every student who has gone through the technical studies to choose the profession of an architect, even if he has absolutely no artistic aptitude for it, to discontinue this practice.

We wish particularly to point out that for architects there can be only one school—viz. an academy of the plastic art; an academy for this reason, that art cannot be taught, and consequently cannot be admitted as a scientific subject in any course of studies, and because artistic education only consists in this, that the master shows to the art pupil the right way to perfection, and encourages him by his own activity to enter on this path.

It is, therefore, absolutely wrong for technical high schools and schools for artistic trades to admit in their plan of studies the tuition of architecture, because, owing to the students not being tested as to their aptitude for the profession, an absolutely inferior standard of architecture is created.

From what has been said so far it follows that the architect is an artist with a scientific education.

By the studies of technical matters successfully gone through by the pupil, and with the academical apprenticeship, the requirements for the architect are not yet, however, exhausted. The student is still lacking practical activity, and the experience which results from it.

If the apprenticeship of the architect is an exceedingly long one, it will certainly be very considerably extended by the period he is acquiring practical knowledge in an architect's office.

In this section of the apprenticeship of an architect (his apprenticeship really ends only with his death), he stands once more at the parting of the ways in the progress of his education: that is to say, which way do

* Most of the Papers which follow are in abstract only; the full Papers, with the discussions, will appear in the *Compte Rendu* of the Congress.

his capacities lie? Circumstances, &c., lead him to the point either to accept the struggle for existence, or to enter into the safe haven of a salaried position. Here his artistic capacity plays the main part, because the greater it is, the more easily will he be able to refuse the enticing bonds of a fixed position, unless it be a professorship.

The curriculum of education of the architect so far sketched is the normal one, but we would remark at once at this stage that it is certainly not the only one, and that there will be sufficiently numerous cases in which the inborn capacities of the architect, in other words his talents, are so great that a lack of scientific education is hardly of any importance.

This fact, as well as that other, that there is no limit of talent either in more or in less—further, the fact, which it is impossible to dispute, that the first architects in the world in a great many cases are not agreed on the question as to what constitutes an architect—give the certain proof that the title of Architect cannot be protected by letters patent, and that a judgment of artistic qualities is possible only by the artists themselves, consequently by the grouping of the artists among themselves.

In the latter circumstance we find also the proof that municipal and State administrations are not even in a position to make the proper choice of an artist to fill an office.

Still another important factor comes into consideration for making such a choice. The architect appointed to an office will, while occupying it, certainly not play the leading part. His individuality, his taste, &c., must therefore subordinate themselves to the same qualities in his superior, or even of more than one superior. The works carried out under the supervision of the office would therefore not show the capacities, the taste, and individuality of the creating artist, but certainly the less valuable ones of his superiors, and as such superiors in most cases are laymen in questions of art, and often even in technical matters, it will be hardly necessary to give any more reasons why from such a combination no good can come.

It must also be mentioned that the artistic gifts of an artist oppressed by the yoke of office can never undergo the absolutely necessary development. These considerations prove sufficiently that a municipal or a State administration is never in a position to obtain the services of first-class artists as salaried officials.

But municipal and State administrations have certainly the sacred duty of cultivating the fine arts, which means with regard to architecture that the buildings erected by them should exercise the effect of models. But buildings of such a description can only be expected from great artists, and not from officials of an inferior artistic capacity.

For the same reasons the competence of the officials must only extend to the practical, technical, and economical, but never to the artistic control of buildings in the course of construction. If, finally, it is taken into consideration that, by the awakening which took place in the region of art, a lively controversy raged everywhere, and that even to this day public opinion has hardly returned to calmness, and therefore is not in a position to judge with unbiased artistic feeling works of art, such a large number of reasons has been put forward that the correct answer to Question I. becomes easy; it can only be this:

Important municipal and Government buildings can only be constructed by eminent artists, and not by salaried officials.

The considerations alleged up to now will facilitate considerably other questions before the Congress.

2. By OSCAR SIMON. (On behalf of the Central Society of Architecture of Belgium.)

[From the French.]

The Central Society of Architecture of Belgium is of opinion that no advantage can result from the execution of public buildings by salaried officials (surveyors, &c.).

Neither for the administration, which protects its agent and takes upon itself the civil responsibility;

Nor for the public, which pays and suffers from the imperfect arrangements of the buildings destined for its use, and the æsthetic feelings of which are too frequently hurt and painfully impressed by the permanent sight of buildings generally devoid of artistic character.

While we shall avoid entering upon personalities or trying to prejudice private interests, and having only in view the preponderance of the architectural art, and for the only aim a better future standing of the architects as a professional body, considering that these have a domain of art and its interests to defend, we hold that it is an abuse that certain officials (surveyors) should offer to private parties on the look-out for authorisation by administrations services which are prohibited by the regulations and which are a form of unlawful competition highly prejudicial to the independent architects existing only on the income from their professional art.

It is desirable that more energetic action should be taken by architects, with a view to obtain legislative powers:

1. By bringing into harmony with the modern requirements of life the rate of the out-of-date tariffs still enforced upon the architects.

(*A juridic consecration should be given to this principle: "To a superior talent higher fees should be allowed."*)

2. By putting a stop to persons invading the architectural domain who do not exclusively exercise the profession of an architect.

3. By the revising of the laws on building in those passages where the text, or the interpretation given to it, imposes on the architect obligations and responsibilities inconsistent with his mission as an artist and out of proportion to the fees which are allowed for them.

(*Apply juridically to the architect and to the contractor the common law principle: "To a larger profit must correspond a more extended responsibility."*)

4. The Central Society of Architecture of Belgium, in the conviction that even within a modest range the co-operation of the architect will still result in the work being carried out under advantageous conditions as to price, duration, and arrangement, without excluding an artistic character which it is always necessary to strive after, is of opinion that if it be essential that the execution of public buildings should be entrusted to private architects it is ardently to be desired that *all the work, whatever its importance may be, of construction and arrangement of plan of buildings for the public use should be exclusively given to practitioners of the architectural art*.

In this there are considerations of corporative, economic, educational, and artistic interest, towards which the public officials must not remain indifferent.

To our corporation are due the normal consecration of public teaching of art, a professional encouragement, and an official recognition of the rights and prerogatives legitimately given to our profession.

Moved by a feeling of professional solidarity, the Seventh International Congress of Architects, meeting in London in 1906,

Wishing to affirm with all its power the claims and

just aspirations of the architects, with a view to an improvement of the economic conditions of their existence.

Formulates the Resolution:

That in future the administrations of States, departments or provinces, municipalities or communes, as well as the administrations of benevolent institutions which may be founded by the former, shall give instructions for professional architects to be appointed by way of public or limited competitions, or whose special capacities or notoriety shall be universally recognised, for the projects of works or buildings to be carried out within their jurisdiction;

That an absolute prohibition shall put an end to the interference of agents paid by the public administrations, that they shall obtain through private persons an authorisation which can only be granted by public authorities;

That within the limits of their influence in the Legislative Assemblies our representatives shall take the initiative to bring about the reform of the laws in force in such cases where the obligations and responsibilities imposed on the architect are incompatible with his mission as an artist and in disproportion to the emoluments attached thereto.

3. By GASTON TRÉLAT (Paris).

[From the French.]

Summary.—Recapitulating, the buildings we may have to erect or to rearrange answer the requirements of the moment or of the future. What is required is knowledge and experience.

Teaching is not sufficient to develop the necessary capacity. Something more is demanded than a cramming of characteristic facts acquired by instruction. The latter must be completed by a personal training in the profession. It is to be recommended that the latter be not started too late and that the simultaneity of the two operations be secured. The intellectual and the technical education combined generally carries with it a considerable widening of ideas. It may be infinite; not seldom even it lasts as long as life itself. There exists something like a stimulus to acquire new knowledge, the want of which is accentuated in intensity by the existence of personal ideas. But, above all, it is the true source of the original points of view as opposed to the knowledge acquired by study.

In the exercises offered by the workshop, the laboratory, or by that other vast workshop which is the nation, education is ever active and imparts a particular course to the mind. Then it is that the capacity for *hypothesis* and for the *ideal* asserts itself in matters of *science* and in matters of *art*. And is it not correct to say that they are a basis of operation for the study and the solution of the requirements of to-morrow; that they are even the only agents to prepare the realities in relation with the new wants? In the workshop as in the laboratory, where the master always respects, when occasion allows, the point of view which guides the student, this education is accomplished and completed.

It takes unexpected and infinite shapes which the personal values alone are able to measure.

These considerations would thus lead us to express the wish that, in art as well as in science, the same method should be put into operation from the intellectual point of view. The work in the laboratory and in the workshop would bring into evidence the variety of the points of view of the different minds. But, taking of course into account the vastness which science has reached at the present time, it is the individual and characteristic mode of action of the apprenticeship in the past that should lead us at the present.

In our times, after Claude Bernard, after Pasteur, to mention only two names borrowed from the nationality which I represent, *art* and *science* in the end got so near to each other that they appear to be very intimately related. In fact, from the circumstance of imaginative aptitudes which equally represent the *ideal* and *hypothesis*, it would seem that we should endeavour to make them one—at least in the aptitudes for initiative which open an unexplored field for new undertakings. The fact remains that *art* and *science* are in our days considerably nearer each other than they were in the past. They are two leading branches of human activity, each having no longer any right to remain indifferent towards the other.

Conclusion.—The question of public buildings gives rise to a great many questions which interest our societies. This is one of the general features of the mission inherent to the architect. He must therefore keep in touch with the time and constantly interrogate it about the requirements it may manifest to him.

Science and art enable a selection to be made of remarkable solutions. The consequence is a knowledge and experience which the different modes signalled will call forth. It is useful to propagate their habit.

Resolution of the Congress.

The subject was discussed by Mr. G. Oakley Totten, jun. (United States), Professor V. Nagy (Hungary), Messrs. F. E. P. Edwards (Bradford), A. W. Weismann (Holland), A. B. Plummer (Newcastle-on-Tyne), G. H. Fellows Prynn, Maurice B. Adams, Jules de Berczik (Hungary), J. M. Poupinel (France), W. E. Riley, W. J. H. Leverton, Bodo Elhardt (Germany), Eben Harper (Birmingham), and W. M. Fawcett (Cambridge). A resolution moved by M. J. M. Poupinel (France), and seconded by Mr. A. B. Plummer (Newcastle-on-Tyne), was adopted as follows:—

That in the future and in the interest of administrative bodies and the public, and in the higher interest of the art of architecture, public bodies (whether Governmental, provincial, or municipal) should entrust important architectural works only to professionally qualified architects, either by competition or otherwise.

SUBJECT II.—ARCHITECTURAL COPYRIGHT AND THE OWNERSHIP OF DRAWINGS.

Wednesday and Thursday, 18th and 19th July.—Institute Meeting Room.

Chairmen: M. H. P. Nénot (France); Mr. W. S. Eames (United States).

Hon. Secretaries: Señor Orioste y Velada (Spain); Mr. Walter Read (Transvaal).

1. *The Ownership of Architects' Drawings.*

By H. HEATHCOTE STATHAM.

The question is distinct from that of architectural copyright in designs, with which it must not be confounded. It turns on the question whether the drawings and specification made by the architect in order to carry out a building are to be retained in his custody or to be handed over to his client. In France and Germany no legal question is raised on the subject: the architect retains the drawings as a matter of law. In England the custom has been almost universal in the same sense. But in the case of *Ebdy v. McGowan* (1870), the Court ruled that, the building not having been carried out, the drawings must be handed over to the client on his paying for the time expended on them. In the case of *Gibbon v. Pease* (1904), the Court, to the surprise of architects, ruled that the precedent of *Ebdy v. McGowan* covered all cases, whether the building had been carried out or not, and that the client had a right to demand all the drawings, the Court refusing to hear any evidence on the side of the architect, whose drawings and specification can therefore, in England, be legally claimed by the client, although he already has what he really paid for—viz. the building itself. It is pointed out that an architect is not paid for making drawings, but for producing a building, the drawings being only his necessary instructions to the workmen; under some circumstances he might even dispense with drawings altogether. To require him to hand over to the client drawings and specification, which represent the result of his professional experience over many years, for the client to use as he pleases, is a manifest injustice to the architect. Moreover, the custom in the profession of handing over the drawings to the client when the building has been planned, but not carried out, is a mistake on the part of the profession; as in such a case an unscrupulous client has only to say that he has changed his mind in order to get possession of the drawings and use them as he pleases, with no further compensation to the architect. The wording of Clause I. of the Institute Scale of Charges is most unfortunate, as it appears to state (though not so intended) that the architect's commission is for producing drawings of a building. The wording of this clause should be amended. The author moves the following resolution:—

"That, in the opinion of this meeting, the Royal Institute of British Architects, having revised the wording of its paper on the Professional Practice as to the Charges of Architects in the sense indicated above, should as early as possible take steps to get a Bill introduced into Parliament for securing the adoption of their scale of charges, so amended, as part of the law of the land."

2. *Artistic Copyright.*

By D. PAOLO SALVAT.

[From the French.]

1. Architectural property ought to be recognised and enjoy identical rights with those of intellectual property in general.

2. Each country ought to fix, as far as it is concerned, the limit of duration of copyright; but in no case ought this limit to be less than twenty-five years, counting from the death of the author.

3. In no case ought the design—that is to say, the idea expressed in terms of architectural art—to be reproduced without the author's consent.

4. The architectural work ought never to be reproduced either in its whole or in any one of its details, no matter for what constructional purpose, without the author's consent.

5. The architectural work may be reproduced in sculpture, drawing, painting, photography, or engraving, provided the author has not expressly and publicly signified his absolute prohibition.

6. The right of ownership is inherent in artistic work. It is constituted *de facto*, without need of registration or deposition of any kind. For copyright to be guaranteed signature and date should be sufficient.

7. Assignments of copyright should be made in the same form as assignments of personal property at the will of the contracting parties.

8. The author should specify in the assignment the points as to which he reserves copyright.

9. Any contract without restrictions implies an assignment also without restrictions.

10. Assignment without restrictions does not deprive the author of the power to reproduce his own works, but the assignee can, by an express condition, demand the right to oppose it.

3. By GASTON TRÉLAT (Paris).

[From the French.]

Summary.—In conclusion I do not believe that there exists an artistic property beside the possession of the objects themselves, which is exactly the case as regards the property of architectural drawings. In the matter of art, in the matter of architectural elaborations, there is no *artistic property*. We have seen that the question was of a nature to interest the question of *morale*, inasmuch as it regulates our personal actions towards others. But the *right* which is connected with other people's actions in relation to ourselves must not interfere in the matter.

In architecture the proportions of a piece of land, the building site, the surroundings, are all elements which must be taken into consideration in making the studies for the composition of the plan. The mind of the artist is haunted by too many equally decisive ideas in the orientation of his work that any other mind could grasp the leading idea of his conception. The arrangements and the co-ordinations are all connected with it. It is a law from which the artist will never be able to free himself under the penalty of turning out bad work, and consequently of injuring his own personality.

Conclusion.—*Artistic property*, as far as I have been able to understand it, does not rest upon a sufficient examination of the question; it could not support a conscientious and logical analysis. The result of it is therefore, in my opinion, an action without profit and a regrettable loss of time.

4. De la Propriété des Œuvres d'Architecture.

Rapport de M. GEORGES HARMAND.

[Received too late for translation.]

Le droit de propriété artistique est pour l'artiste plus particulièrement le droit de reproduire l'œuvre qu'il a conçue et de la rendre publique. A ce droit qui est l'un des principaux éléments du droit de propriété artistique, s'ajoutent différents autres droits, comme le droit de décider si l'œuvre sera publiée en entier ou en partie, à quelle époque et aussi moyennant quelle rémunération l'auteur en autorisera la reproduction par des tiers.

Enfin, l'auteur a seul le droit de décider quelles modifications, corrections ou remaniements peut subir l'œuvre dont il est l'auteur.

L'auteur a le droit aussi de décider si l'œuvre qu'il a créée sera signée, et s'il la signera de son nom ou d'un pseudonyme. Personne, sans son consentement, ne peut modifier ces diverses conditions de la publication de son œuvre.

Tous ces droits dont on constate depuis un siècle l'existence n'avaient pas jusqu'à ces dernières années de sources juridiques très nettement déterminées; en équité l'on sentait bien que toutes ces affirmations du droit de l'auteur étaient judicieuses, la vraie raison juridique n'a été déterminée que lorsqu'on a dégagé ce que l'on appelle "le Droit Moral."

Le Droit Moral de l'auteur repose sur la responsabilité qu'il prend, ayant créé l'œuvre, de s'en affirmer l'auteur; en échange, il s'expose autant aux critiques des autres artistes, ses pairs, et du public qu'à leurs éloges.

Le corollaire de cette responsabilité et de cette affirmation de créateur est que, seul, il a le droit de signer l'œuvre, et que personne ne peut porter atteinte à sa signature, pas plus qu'à l'œuvre.

A plus forte raison, a-t-il seul droit aux honoraires ou rémunérations que les tiers peuvent donner pour jouir de l'œuvre ou en obtenir des reproductions.

Ces principes sont communs à tous les artistes, aux dessinateurs, aux peintres et aux sculpteurs.

Ceux-ci jouissent depuis longtemps de l'exercice de leurs droits d'auteur d'une manière infiniment étendue.

Il importe essentiellement aux architectes de bien se persuader qu'ils ne demandent que ce dont jouissent déjà les peintres, sculpteurs ou dessinateurs.

Quelles seront, particulièrement pour l'architecte, les conséquences de la protection artistique?

Les voici en quelques lignes:

Tout d'abord l'architecte manifeste ses idées dans un ensemble de dessins et de plans, coupes, élévations, détails des façades extérieures et intérieures, détails décoratifs et autres en général, ensemble que nous exprimerons à l'aide de ces mots: *les Dessins d'Architecture*.

Les dessins d'architecture constituent la première manifestation de l'idée de l'architecture, *l'original de l'œuvre*. L'architecte a droit de signer cet ensemble de dessins.

L'architecte est maître de publier, quand il lui convient, l'œuvre qu'il a tracée.

Il a droit de la reproduire par les procédés qu'il lui convient de choisir, et de la manière qu'il l'entend.

L'exécution de dessins d'architecture sous la forme d'un édifice élevé sur le terrain est un des modes de reproduction des dessins d'architecture.

Nul ne peut reproduire l'œuvre sans l'assentiment de l'auteur.

L'architecte est maître de déterminer les honoraires qu'il lui convient de fixer, pour consentir à la reproduction de son œuvre.

Sauf stipulation contraire, l'architecte, en donnant

son consentement, ne concède le droit que pour une seule reproduction de son œuvre.

Nul ne peut apporter, sans l'assentiment de l'auteur, des corrections, modifications ou remaniements à l'œuvre originale ou aux reproductions consenties par l'auteur.

Il est presque constant que les législations, qui ont organisé la propriété littéraire ou artistique, concèdent pour un temps déterminé, qui le plus souvent comprend la vie de l'auteur et une période de 30, 50 ou 80 ans après sa mort, le monopole de propriété artistique.

Pendant la durée de cette période, l'auteur, puis après lui ses héritiers ou ses cessionnaires, ont seuls le droit de publier, de reproduire l'œuvre.

En examinant attentivement les éléments du Droit Moral, on a vite constaté que les héritiers n'avaient pas absolument autant de droits que l'auteur sur l'œuvre.

Les héritiers ne peuvent détruire l'œuvre, ou la modifier dans des conditions inesthétiques. Ils ne pourraient pas non plus se refuser systématiquement à admettre que l'œuvre a été produite par l'auteur.

Convention Internationale de Berne.

Une Convention internationale, signée à Berne en 1886, unit pour la protection de la propriété artistique un nombre considérable des états du globe: ce sont l'Allemagne; la Belgique; le Danemark; l'Espagne; la France, l'Algérie et les colonies; la Grande-Bretagne, avec ses colonies et possessions; Haïti; l'Italie; le Japon; le Luxembourg; Monaco; Monténégro; la Norvège; la Suède; la Suisse; la Tunisie.

L'Union internationale produira un jour ce résultat admirable d'une unification des législations sur la propriété artistique.

Vœu.

Le VII^e Congrès International des Architectes, réuni à Londres en 1906:

Rappelant, d'une part, les vœux émis depuis vingt-huit ans dans les Congrès Internationaux des Architectes et de la Propriété Artistique, ainsi que dans les Congrès Internationaux de l'Association Littéraire et Artistique Internationale, et notamment à Madrid en 1904; et rappelant d'autre part le Protocole de clôture de la Conférence diplomatique tenue à Paris en 1896, lequel consacre le principe de la protection complète des œuvres d'Architecture, Rappelant enfin la loi espagnole de 1879 et la loi française de 1902, lesquelles protègent expressément les œuvres d'architecture,

Est d'avis:

1^o. Que les dessins d'architecture comprennent les dessins des façades extérieures et intérieures, les plans, coupe et élévation, et constituent la première manifestation de la pensée de l'architecte et l'œuvre d'architecture;

2^o. Que l'édifice n'est qu'une reproduction, sur le terrain, des dessins d'architecture;

Et renouvelle le vœu que les œuvres d'architecture soient protégées dans toutes les législations et dans toutes les conventions internationales, à l'égal de toutes les autres œuvres artistiques.

Resolutions of the Congress.

(a) THE OWNERSHIP OF ARCHITECTS' DRAWINGS.

After the reading of Mr. Statham's Paper the Chairman ruled, in deference to the opinion of a majority of the Meeting, that the question of the ownership of architects' drawings should be treated as distinct from that of artistic copyright, and that the two questions should be discussed and voted upon separately.

Mr. Statham's resolution, as set out on page xxiv, having been seconded by Mr. E. W. Hudson, was eventually withdrawn, together with an amendment by Mr. G. A. T. Middleton, seconded by Mr. A. N. Prentice, in favour of the following moved by Mr. A. H. Kersey, seconded by Mr. W. H. Atkin-Berry, and adopted by the Meeting—viz.—

That this Congress is of opinion that the architect is employed to produce a building, and that all drawings and papers prepared by him to that end are undoubtedly his property.

Besides the movers and seconders above mentioned, the discussion was contributed to by M. Harmand (France), Dr. H. Muthesius (Germany), Mr. Walter Read (Transvaal), and Mr. E. W. Fritchley (India).

(b) ARTISTIC COPYRIGHT.

The subject was discussed by MM. Pablo Salvat (Spain) and Georges Harmand (France), and on the motion of the latter, seconded by Mr. A. H. Kersey, the Meeting resolved that—

This Seventh International Congress of Architects assembled at London in 1906, Recalling on the one hand the resolutions passed during the past twenty-

eight years by the International Congress of Architects and the International Congress of Artistic Copyright, as well as by the International Congresses of the Association Littéraire et Artistique Internationale, notably at Madrid in 1904; Recalling, on the other hand, the "Protocole de Clôture" of the Diplomatic Conference held at Paris in 1896, which upholds the principle of complete protection of works of architecture; Recalling, finally, the Spanish law of 1879 and the French law of 1902, both of which expressly protect works of architecture:

This Congress is of opinion:

1. *That architectural designs comprise designs of façades, exterior and interior, together with the plans, sections, and elevations, and they constitute the first manifestation of the architect's idea and the work of architecture.*
2. *That the building is but a reproduction, on the site, of the architectural drawings.*

And this Congress renews the resolution that works of architecture be protected in all legislative enactments and in all international conventions equally with every other kind of artistic work.

SUBJECT III.—STEEL AND REINFORCED-CONCRETE CONSTRUCTION.

(a) THE GENERAL ASPECT OF THE SUBJECT.

(b) WITH SPECIAL REFERENCE TO ÆSTHETIC AND HYGIENIC CONSIDERATIONS IN THE CASE OF VERY HIGH BUILDINGS.

Chairmen: Messrs. Frank Miles Day (United States) and J. J. Caluwaerts (Belgium).

Hon. Secretaries: Messrs. Rapisarda-Rizzo (Italy) and F. N. Jackson (England).

1. By the JOINT REINFORCED CONCRETE COMMITTEE.

The great and increasing use of reinforced concrete in buildings and other structures, and the need of having some authoritative pronouncement on the proper conditions of its use, have led the Royal Institute of British Architects, with the co-operation of other bodies, to appoint a Committee to enquire into the subject.

The Members of the Committee are as follows:

Nominated by the Royal Institute of British Architects.—Sir Henry Tanner, H.M. Office of Works; Professor W. C. Unwin, LL.D., F.R.S.; Charles F. Marsh, M.Inst. C.E.; A. T. Walmisley, M.Inst.C.E.; Max Clarke, F.R.I.B.A.; William Dunn, F.R.I.B.A.; H. D. Searles-Wood, F.R.I.B.A.; Colonel E. Winn, late R.E.

Nominated by the War Office.—Colonel C. B. Mayne, R.E., Assist. Director of Fortifications and Works, War Office; Major E. M. Paul, R.E., Assoc.Inst.C.E., Instructor in Construction, School of Military Engineering, Chatham.

Nominated by the Incorporated Association of Municipal and County Engineers.—A. E. Collins, M.Inst.C.E.; J. W. Cockrill, M.Inst.C.E.

Nominated by the District Surveyors' Association.—E. Dru Drury, F.R.I.B.A.; T. H. Watson, F.R.I.B.A.

Nominated by the Institute of Builders.—Benjamin I. Greenwood; Frank May, J.P.

The Committee has appointed Sir Henry Tanner as Chairman, Professor Unwin and Col. Mayne as Vice-Chairmen, and Mr. H. D. Searles-Wood as Hon. Secretary.

It has appeared desirable to the Royal Institute that some statement be made before the International Congress of Architects in London as to the general scope and aim of the Committee, and the following outline is made with their approval:

The aim of the Committee's deliberations is to prepare a report, stating their recommendations and conclusions as to:

1. What drawings and details should be prepared before work is commenced.
2. The nature of the materials which may be employed, and the standards to which these should comply; i.e.
 - (a) The metal in reinforcement.
 - (b) The matrix.
 - (c) The sand.
 - (d) The gravel, stone, clinker, or other aggregate.
 - (e) Water.
3. What are the proportions for concrete to be used in different cases.
4. How the ingredients for concrete are to be mixed and deposited on the work.
5. The distances to be allowed between the reinforcing bars and what covering of concrete is necessary.
6. What precautions are necessary in the design and erection of centering and false work, and how long the

whole or portions of centering and false work should remain in position.

7. The rules which should be used in determining the dimensions of the several parts necessary for security, and what safe stresses should be allowed.

8. The supervision necessary and the special matters to which it should be directed.

9. The fire-resisting properties of reinforced concrete.

10. Its adaptability for structures where resistance to liquid pressure is essential, and what special precautions may be advisable under these conditions.

11. What are the necessary conditions for its permanence; resistance to rusting of metal, disintegration of concrete or effects of vibration.

12. The testing of the materials employed and of the finished structures.

13. What provisions are desirable in Building Laws or Government regulations relating to buildings and other structures, so far as these affect the use of reinforced concrete.

The Committee having been recently constituted, and only two meetings having been held, no conclusions have been arrived at, and members of the Congress are invited to send communications, either the results of experiments or other information or suggestions that may be of use.

2. *Ferro-Concrete Construction.*

By HENRY ADAMS, M.Inst.C.E.

So much has been written during the last four or five years upon the use of concrete and steel in combination that there is practically nothing new to be said. Those who have studied the literature of the subject will probably have been struck with the number of different terms used to express this mode of construction. "*Béton armé*," and the English equivalent, "armoured concrete," are perhaps the least appropriate. "Reinforced concrete" gives undue prominence to one element to the total exclusion of the other; "concrete-steel" is less open to objection, but the writer prefers the term "*ferro-concrete*" as being self-explanatory of the intimate combination between the two materials, the more important one coming first. A superficial criticism might allege that *ferrum* is iron, and therefore not applicable to steel, but steel is generically iron, and the term is therefore quite appropriate.

In early designs no provision whatever was made to resist the shearing stresses, which were either overlooked or ignored, and it is interesting to observe the gradual recognition these stresses obtained in the hands of the designers, until in recent construction they receive nearly as much consideration as what are called the "direct" stresses of tension and compression. The importance of considering shear was brought prominently under notice by the failure of experimental beams which had no special provision for meeting the shear stress towards the ends, where of course it is greatest. Various methods are employed in the different systems, but the Kahn trussed bar seems peculiarly suitable, the fin on either side of the core being left attached throughout the middle portion where the tension is greatest, and separated and bent upwards towards the ends to take the shear where the tension is least.

The question of adhesion between the concrete and the steel at one time caused some anxiety. It was naturally supposed that with increase of temperature the steel would expand more than the concrete, and it was thought that this would be sufficient to impair, if not to destroy, any adhesion that might be otherwise obtainable. As a matter of fact the linear change for

a given variation of temperature is about 15 per cent. less for concrete than for steel, but when the actual figures are compared the difference is very trifling. Taking the range of temperature between summer and winter as seventy degrees Fahrenheit, the change of length in 100 feet produced by this variation of temperature will be for steel 0.546 inch and for concrete 0.464 inch, the difference between the two materials in a length of one foot being less than a thousandth of an inch.

With equal care in mixing the concrete the adhesion varies with the condition of the surface of the steel. When coated with red oxide paint it is extremely slight, and even a bituminous paint reduces the adhesion below that due to a clean unprepared surface. It is, however, found that the best adhesion occurs when the steel is rusted all over before being embedded in the concrete. This appears to be due to the formation of some chemical compound, or salt of iron and lime, which may not be detrimental in the absence of further moisture, but the final result is doubtful in such cases as reservoir walls, tanks, and dams. Painting the steelwork over with cement wash is a simple method of commencing the contact, and this would seem to prevent further rusting, on the principle of the pail of limewater into which the Sheffield grinders dip their small-goods to resist the tendency to rust when left wet.

Professor Bauschinger found the ultimate adhesion to be from 560 to 668 lb. per square inch, but Mr. J. S. Costigan found it not to exceed 65 lb. per square inch. Probably in the former case it was measured by the resistance of a rod to withdrawal, and in the latter by the insertion of small plates in a briquette. At any rate it is not safe to reckon upon more than 50 lb. per square inch as a working load for adhesion. Allowing 16,000 lb. per square inch as the working load on steel, the embedded length that would make the strength and adhesion equal would be 16,000 times the sectional area of steel in square inches divided by fifty times the surface area per inch in length, or briefly $320 a \div s$; so that a quarter-inch square bar embedded for a length of twenty inches would be equally strong against tearing or slipping, and similarly a one-inch square bar would need to be embedded for a length of eighty inches. There are many different constructions in which this fact may be of importance; for instance, in a simple beam, if the span is less than twice the above lengths, there will be a tendency for the rod to draw before the tensile strength is utilised, unless the ends are turned up to form cleats. In the edge of a circular ferro-concrete tank, instead of overlapping the ends of the rods, for which the above distance would be a minimum, it would clearly be more economical to turn up the ends and slip a welded link over them. There are several specially prepared bars giving greater resistance to withdrawal, e.g. the Ransome twisted bar, the square corrugated bar, and the Columbian bar, which relies for efficiency upon its large surface area compared with its sectional area, but plain rods which can be obtained everywhere should be adopted whenever possible, on the score of economy and avoidance of delay.

Ferro-concrete does not at first sight lend itself readily to architectural effect; the warehouses and coal stores constructed of it can hardly be called visions of beauty, but some of the recent arched bridges have a decidedly pleasing effect, and when the adaptability of the compound material becomes better known we may confidently look forward to the expression of taste as well as utility in the designs.

Perhaps the greatest departure from existing models occurs in the construction of ferro-concrete retaining walls. Hitherto we have looked upon weight as the essential element of such walls, and stability has been

secured by leaning this weight against the bank of earth to be supported. We are now confronted with a new type in which added weight bears no part; the only weight employed is that of the earth itself. The construction consists of a skin of concrete reinforced with steel rods, securely and continuously attached to a similar base and forming with it two sides of a triangle. The face wall is then kept in position by rods protected by concrete, tying the inner edge of the base at intervals to the face at one or more points of the height. It does not follow that because the centre of effort of the thrust occurs at one-third of the height that that is the proper place for the connection to be made; it would be if the wall were disconnected at the bottom, but being firmly secured there the point of attachment should certainly be higher than one-third. If the stiffness throughout the height be uniform the point of attachment should be about 58 per cent. of the height. There are some other rather nice points of calculation about these walls which the writer does not propose to go into now; he would only point out that, apart from strength, the stability is obtained by the weight of earth resting on the base. Other examples of these walls have reinforced counterforts six to nine inches thick extending to the whole height at intervals of eight to ten feet, in the length, and others again have reinforced buttresses at similar intervals, and in one case the writer has seen the base of the wall extended in the front instead of at the back, so as to react by pressure at a considerable leverage, but this method does not appear to be so economical as that previously described.

There are, no doubt, many other uses to which ferro-concrete systems may be applied. Englishmen are naturally conservative; they like to feel that in their adoption of any new system they are not running too great a risk, and a novel form of construction such as this must undoubtedly have some failures, but, paraphrasing the old saying, the writer would urge that "nothing succeeds like failure." It is from failures that the greatest knowledge of true principles can be obtained, and therefore we should be grateful to those pioneers who do venture to take risk, even at the sacrifice of some reputation.

3. Reinforced Concrete and Fire Protection.

By E. P. GOODRICH, M.Am.Soc.C.E.

In choosing the subject of "Reinforced Concrete and its Relation to Fire Protection" the writer had in mind the dual conditions necessary to the greatest immunity from fire in large building constructions, particularly where such has varied types of occupancy, together with correspondingly different manufacturing fire hazards.

The requisites are, first, the employment of the most incombustible materials and the assembling of these elements in such manner as will most effectively limit the spread of fire; secondly, the equipment of the building with such protective and extinguishing apparatus as a wide experience has determined most effective. Either of these essentials alone will accomplish a large measure of results, but to secure a maximum the combination is necessary.

An exemplification of such a combination is the tenant factory community being developed by the Bush Terminal Company of Brooklyn, N.Y., U.S.A., for which reinforced concrete has been adopted as the structural part of all buildings. These factories were especially designed to take advantage of all insurance regulations, and thus secure the minimum insurance rates on buildings and contents.

Associations of insurance companies in the United States have had the effect of standardising requirements. All the most important points thus developed were carefully considered in the design of the Bush Factories, which thus were provided with:

- Special fire walls.
- Special stair and elevator shafts.
- Waterproof floors.
- Automatic fire doors.
- A complete sprinkler equipment.
- Windows of wire glass in metal frames, &c.

The reinforced concrete design was prepared with special care as to the fire-resisting qualities of the structure. A "unit" system of reinforcement was devised, which proved effective and economical, not liable to derangement during construction, and especially advantageous because allowing of the use of special fire-resisting materials at points of greatest danger. The columns, even though built of concrete, were fireproofed with cinder concrete shells, which served at the same time as a vehicle for the steel reinforcement and as a mould for the construction of the main body of the column.

The building now completed enjoys the lowest rate of fire insurance, both as to structure and contents, accorded any similar risk.

4. By Professor LOUIS CLOQUET. (On behalf of the Central Society of Architecture of Belgium.)

[From the French.]

CONSTRUCTIVE POINT OF VIEW.

The old style edifice was characterised by the separation between two distinct parts, the walls and the gable. There is a lack of solidarity between the two. At the point where the trusses of the frame rest upon the walls there is something like an articulation. The introduction of the metallic frames has not at once remedied this characteristic defect of buildings formed of stone walls and gables of wood. For a long time it was customary to combine trusses of iron similar to the wooden trusses. The solution of the problem of the large halls only made a decisive step in advance when the centred trusses were introduced, which have their starting point on the ground, like the trusses of the Dion pattern. From that moment the solidarity between the vertical and the inclined parts was secured. However, it is only the trusses which cannot be deformed. The solidarity between the vertical and the inclined parts is not realised in the enclosing surfaces. There is lack of homogeneity between the two parts of the building—that is to say, its skeleton or frame and its wall. Logic claims a more radical solution, which would consist in establishing solidarity not only between the uprights and the trusses, but rather between the wall and the roof. This is what the use of reinforced concrete enables us to realise. The side wall may even disappear or be made one with the vault. The whole will show almost uninterrupted surfaces on the outside as well as on the inside, with the absence of the encumbering internal protrusions of the frames. The new arrangement has, therefore, as a result to save the trusses, and only to maintain a surrounding wall which supports itself without any assistance. Now experience has shown that buildings conceived on this plan do not cost more than those carried out in thick stone walls with metallic gables, and that they are solid.

If it is the question of a building with storeys the floor of reinforced concrete takes with advantage the place of the old systems. The most characteristic consequence of the use of reinforced concrete is the

suppression of the roof, as the uppermost ceiling can be used as a cover and constitute an inhabitable terrace. This kind of construction lends itself, moreover, to the boldest rakes or overhanging structures.

This system, if applied in a rational manner, is able to bring a change into the architectural forms. It simplifies the forms, it causes the cumbersome complexities of the frames and floorings to disappear, it simply carries out all the surrounding or separating surfaces. It makes disappear every distinction between the wall and the roof. It introduces an architecture consisting of so elastic surrounding walls that these can be given any dimensions required, according to the space it is useful to enclose. The habitations will take the shapes of parallelepipeds terminated by terraces, and the large buildings with curved vaults with visible estrades. We must be prepared to see sculptures and moulded relief work disappear and coloured ornaments to prevail. A radical change in the internal and external forms of the buildings will be the consequence of the substitution of a concrete solid, homogeneous structure for our former architectonic organism. All the forms proper for a combination of marked out stones and covered over with plaster, which will henceforth no longer be used, would here be devoid of expression and æsthetic value. They must be given up and other methods must be found.

THE ÆSTHETIC POINT OF VIEW.

We have in mind three kinds of form: those of *convenience*, those of *structure*, and those of *expression*.

The forms of convenience, by which the building receives its complete usefulness and a character in harmony with its destination, satisfies the mind without causing pleasure to the eye. Those forms of convenience which are, if not the most pleasing, at least the most excellent can be carried out to perfection by making use of the processes, so eminently practical, of reinforced concrete.

The forms of expression are those by which the architect and his assistants put their imagination and their soul into the building, in order to impart to it the eloquence of a pleasant aspect. The ideal is that they shall form an integral and inseparable part of the structures. In the buildings constructed of reinforced concrete there is little scope for the artist's talent, especially the sculptor's. There remains hardly anything except the superficial decoration by painting and some polychromic, ceramic, or other adornments, but for the artists in colour a vast field is opened for their creations.

The forms of structure, either real or fictitious, are the principal ornament of the buildings produced by the old methods. They are those organic forms which give life to the aspect of buildings with walls of marked out stones.

In the old-fashioned conception a building is to be compared with a living organism where we can distinguish a skeleton, various members, and a sort of muscular system. Reinforced concrete does not afford these elements of interest and charm; it leaves the impression that the work has been carried out in too docile a material, on which the sacred labour of the workman and his traditional processes have not left the traces of the noble struggle between the artisan and matter. We do not find the same beauty in this work all cast in one block in a dead and dull-coloured material, without apparatus, without organism, with which the best thing that can be done is to hide it beneath a superficial decoration.

In conclusion the new processes, economic and powerful as they are, are precious from the point of view of certain

bold and complex accomplishments. They are devoid of the charm of an artistic expression. Besides, economy is only a relative law and of a secondary character, and the boldness of the structure is not always required. A process which is prevalent from these two points of view does not impose itself to the exclusion of the others. Recourse may be had to it for the economic satisfaction of utilitarian projects, for the realisation of comfort, and for the solution of bold problems. But it will never eliminate from architectural practice the noble and artistic combinations of masonry work in marked-out stones, moulded and sculptured, of frameworks in wood and in metal, of super structures with vaults, &c.

5. Steel and Reinforced-Concrete Construction.

By JOAQUIN BASSEGODA (Barcelona).

[From the French.]

Building in reinforced concrete does not solve any new problem either in art or construction; it is a composite building of stone and metallic materials by means of which, profiting by the qualities of the two components, difficulties are more economically solved than could be done with either of them alone.

Economy in the use of reinforced concrete does not depend on the low price of the materials of which it is composed, which are comparatively dear, but on their accurate combination, which allows of the quantity being reduced. Economy consequently has a limit in the maximum coefficient of ironwork and concrete.

There is no reason why these coefficients, especially that of the concrete, should be higher than in homogeneous constructions, for there are many circumstances, all difficult to foresee, which may produce lower resistances than those which have served as a basis in the calculation; such as the quality of the cement, the nature and size of the sand and gravel, and the manipulation and use of the different materials.

This consideration has produced various systems from which cement work has been almost completely eliminated, or in which, at all events, it has not been taken into consideration in the calculation; it is then considered as a simple exterior covering destined to protect the metal against agents which would tend to destroy it, such as oxidation and fire.

Security reaches its maximum in these systems, but, on the other hand, economy diminishes; it may happen that this kind of masonry may become less economical than other homogeneous kinds, such, for example, as brick laid with cement.

In countries where they have excellent brick which, according to an already old-established custom, they use in very reduced thicknesses, either in the parts which give support or in the parts which are supported (arches and horizontal floorings), one might introduce the system of fortifying these constructions, thus obtaining a greater economy in homogeneous masonry work and in fortified concrete work.

In places where construction in brick does not meet the conditions required, the use of fortified cement offers a real and effective economy over all other systems of construction; an economy which should not be exaggerated whilst admitting coefficients of work very superior to those which experience has found to be absolutely safe. One can recommend such systems in which the ironwork is adjusted to be able to resist all external force.

With regard to the artistic point of view of the question, reinforced concrete has no exclusive form; on the contrary, like every concretion, it takes that which is given to it. The supporting element, covering an empty

space, may be straight (beam) or curved (arch): the length of the former is comparatively restricted; the length of the latter can be much extended, as is also the case in homogeneous constructions.

In the straight form, as in the curved, the theoretical limit of reinforced concrete requires, on account of the weight of the concrete itself, the use of a greater volume of iron in the ironwork than is required in homogeneous metallic constructions. The relation or proportion between the units of resistance and of weight is thirteen times greater in cement than in iron. It follows that in proportion as the absolute dimensions of the works in reinforced concrete are increased, so must the importance of the iron over the cement be increased also, and in consequence the forms then have the characteristics of metallic constructions, as may be noticed in the large bridges.

On the other hand, in architectonic works, in which it is scarcely ever desired to attain the maximum of possible dimensions, the artistic character must come from the lines, projections, and coloration. With regard to the first the architect can choose freely without any restriction; the second, whatever they may be—mouldings, ornamental decorations, &c.—can also be obtained with ease and comparative economy, but with the drawback that for their execution one must have recourse to moulding, which indicates a limitation of artistic effect to which architectonic art cannot bring itself. With regard to colour one cannot admit the only one, that of cement; but, on the contrary, this modern concrete must be treated as the ancients treated it, that is to say, by covering it either altogether or in part with other materials of which the varied coloration permits of the desired effect being obtained, as certain architects and engineers are already doing who have succeeded in using fortified cement in their works with a particularly artistic effect.

6. *The Use of Burned Clay Products in the Fireproofing of Buildings in the United States of America.*

By PETER B. WIGHT, F.A.I.A. (Editor of *Fireproof Magazine*, Chicago, U.S.A.)

The purpose of this paper is to treat of the actual use of burned clay in building construction according to the present practice in constructing fireproof buildings in the United States.

Historically burned clay is the most ancient of building materials, and natural clays can be found almost everywhere. Kinds of clays referred to. Refractory clays: most useful, and generally within the reach of all.

Natural variation in qualities of clays treated of, showing universal standards of quality cannot be maintained. Improper clays are often used, the result of ignorance and want of principle. The best can be had where the disposition is to pay for their full value.

Properties of burned fire clay described. Methods of fabrication. Porous terra cotta and semiporous terra cotta preferred. Cellular terra cotta.

Use dates from 1878, but had been used in form of brick floor arches from the introduction of I beams in 1855. Flat hollow arches invented in France by Garcin in 1868. Same used in the United States 1871 to 1878.

Inventions were numerous from 1870 to 1880, but few were practicable or brought into use. Invention of sewer-pipe press gave great impetus to manufacture. Same is still the means of cheapening product. Very few patents now in force.

Porous terra cotta first made at Chicago in 1872. First

used for roofs and afterwards for protecting cast-iron stanchions at Chicago and Milwaukee. Method described. Flat arches of hollow porous terra cotta used in Patent Office, Washington. Girders and roof trusses protected with porous terra cotta at Milwaukee and Washington.

General interest in the necessity of fireproofing the iron constructive members in buildings was first elicited as a result of investigations of effect of fire on incombustible buildings in the Chicago conflagration of 1871.

Great building revival at Chicago in 1880 caused demand for fireproof structures to replace earlier buildings. High buildings were demanded and the main problem to be solved was how to build them fireproof and light enough to stand on elastic clay soil, which could only sustain 4,000 lb. to the foot. Solved by making flat floor arches very light. Foundation problem solved by first using iron rails in concrete with increased offsets. Invention of grille foundations followed. Structural steel I beams first made in 1885, and steel for columns with complete steel skeleton construction perfected in 1888. All steel in these buildings was protected by tiles of various kinds. Several methods for building floors and roofs employed.

Grill foundations on yielding soils are now superseded by concrete piers, built in tubs, down to hard pan or rock.

The first fireproof ten-story office building in Chicago, fireproofed on modern method, has already been removed to make room for a larger and more expensive structure, eighteen stories high, which embodies all the improved methods of fireproofing used at the present day.

Thin-walled hard hollow tiles have been superseded by thicker-walled hollow porous and semiporous tiles for all purposes. Machine-made material only is used. Limits of practicable thickness described.

Burned clay fireproof materials classed under two heads; one of materials used constructively under pressure, such as floor arches and all other arches and partitions; the other comprises all the forms used for the protection of the steel constructive members.

Floor construction described in detail. Flat arches formerly used on the side-pressure principle are now used on the end-pressure principle.

Protection of soffits of I beams described. Same used for all forms of arches. Segment floor arches described. Compared with flat arches. Flat terra-cotta floors with steel-tension members described. The Johnson system. The Bavier system. The Kahn system.

Hollow-tile partitions are described. Defects in former methods, and methods of setting and trimming described. Partitions take the place of brick division walls. Underwriters' laboratories at Chicago referred to. Their great strength to bear loads.

Fireproofing constructive steel members is next considered. Fireproofing iron and steel stanchions the most important. Many methods described and illustrated.

Girder protection is next described and illustrated. The Guastavino "cohesive system" of fireproofing with fireclay tiles described. Especially adapted to construction of domes; is monolithic; a laminated combination of flat tiles and concrete.

Fireproofing in the Pittsburg Terminal Warehouse described. Construction is on a similar principle to that of Guastavino.

Construction of grain-storage tanks for "elevators" with hollow tile described. The construction of the old style of elevators with wood and brick bins perfected by Geo. H. Johnson, and the modern fireproof elevator perfected by his son, E. V. Johnson.

Difficulty in covering the subject intelligently in brief time given. Statistics omitted. Modern methods have proved to be saving methods.

Conclusion.—The American system is not impracticable in any other country on account of cost. Experience, as well as fabrication in large quantities, will reduce cost. High price of labour in the United States should naturally make it more expensive there than elsewhere. Reduction in cost of transportation an important economic item. The whole subject especially pertinent to the present occasion. We are here to learn as well as to teach each other at the same time; to contribute what we know to the fund of information to be here accumulated for the benefit of our brethren throughout the world.

[Illustrated by numerous plates.]

7. By GASTON TRÉLAT (Paris).

[From the French.]

Summary.—To sum up, steel and reinforced cement are destined to see their use become general. They are fit to be easily and conveniently used together with other materials, such as burnt clay and, above all, sandstone; and in this way can be formed a substantial body provided with solidity and of a nature to assure beauty, a quality not to be neglected.

Moreover, the walls built by this method are excellent with regard to the health of the inhabitants, in consequence of the absence of dust produced by sandstone, and as offering no harbourage to disease germs, against which an incessant war must be waged.

The advantages of this particularly healthy kind of installation are, above all, to be appreciated when it is a question of buildings to be used as hospitals or refuges or as cheap lodging-houses.

In consequence of the easy disinfection of the walls, the number of dwellings placed one above the other in buildings of great height is considerably more free from inconveniences.

Conclusion.—Steel and reinforced concrete are materials with which it is possible to erect very high buildings and at the same time to reduce the thickness of the parts, such as walls and floors. Owing to the mechanical nature of these materials they are provided with resistance to compression and to bending, which render it possible to gain useful spaces with regard to the total space covered.

From the plastic point of view they can form a body with the enamelled sandstone, forming walls which have a pleasing effect to the observing eye.

With regard to hygiene the advantages are not inferior to those which may be expected from enamels in consequence of their delicacy of tone. The enamel of the flamed sandstone allows the construction of walls which are impervious to germs. Finally it produces surroundings whose salubrity one cannot too highly extol.

Solidity, economy of space, plastic beauty, salubrity, are thus four qualities produced by the use of these materials.

8. By AUGUSTIN REY (Paris).

M. Rey's Paper, which arrived too late for translation, deals particularly with the value of reinforced concrete as a material for the economical construction of artisans' dwellings. Overcrowding appears to be as much a vexed question with the French as it is with ourselves. Taking as a basis of calculation one room for two people, M. Rey estimates that 660,000 of the population of Paris, and over 4,000,000 for the whole of France, are insufficiently housed. Discussing remedies, M. Rey says:—

Quant aux remèdes qui incombent aux architectes dans notre état social, ils sont d'un ordre très flévié. Il faut qu'ils fassent appel de plus en plus aux procédés de construction qui tout en réduisant le prix de revient de

l'habitation, réduisent ses frais d'entretien. Ces deux facteurs interviennent au même titre dans la réduction du loyer du logement populaire.

Après bien des études et des travaux, nous sommes arrivés dans cet ordre d'idées à préconiser l'emploi rationnel du ciment armé comme ossature pour les maisons à étages pour logements populaires.

Nous avons l'honneur de vous présenter un projet type dont les lignes générales très simples vous feront d'emblée saisir l'économie. C'est aux logements pour familles nombreuses auxquelles nous avons pensé.

Ces logements sont composés soit de quatre chambres habitables et d'une cuisine—soit de cinq chambres et d'une cuisine.

Sans décrire ces logements, dont les plans donnent les détails de dispositions, disons que ces chambres ont de 12 à 15 mètres carrés de surface et toujours 3 mètres net de hauteur—avec éclairage vertical du $\frac{1}{2}$ de la surface des planchers. Les logements de cinq chambres ont une chambre à coucher centrale pour les parents formant séparation entre la chambre des filles et celle des garçons, sans communication entre elles—et une chambre pour les petits avec large balcon pour les jeux. Une salle à manger et une cuisine. Ces logements sont pour famille de six enfants. Les logements de quatre chambres sont pour familles de quatre enfants et éventuellement cinq. La lumière et l'air sont largement répandus. Aucune cour intérieure—toutes les cours largement sont reliées aux voies publiques. La ventilation est transversale pour tous les logements. Les escaliers sont en pleine lumière et sont largement ventilés. Ils sont ainsi le prolongement tout naturel de la voie publique.

L'ossature générale en ciment armé est par poteaux supportant les planchers formant dalles, ayant sans poutres intermédiaires les surfaces des chambres. La suppression de tous les combles et leur remplacement par des terrasses en ciment avec cases formant séchoirs privés, attachées à chaque logement, constitue un perfectionnement dont l'Allemagne nous a donné l'exemple. Les murs de refend en maçonnerie séparent seuls les groupes entre eux et forment pignon contre le roulement général des bâtiments.

Au rez-de-chaussée sont disposés les services généraux communs: buanderie, séchoir d'hiver, repassage, douches, bains, et cases privées pour voitures d'enfant, bicyclettes et malles, annexés à chaque logement.

Tous les murs extérieurs sont creux, vrais murs du pauvre, les moins déperditeurs de chaleur et de fraîcheur, ou en agglomérés, face extérieure en brique recouvrant sans exception tous les poteaux en ciment armé, enduits au ciment crêpi tyrolien et peints à la chaux—cloison intérieure en agglomérés de plâtre, chaux et mâchefer, scories ou autres produits similaires. Les cloisons des logements sont traitées de même. Les fenêtres montent au ras des plafonds et arrivent à 0m.150 du plancher. Elles sont calculées au $\frac{1}{2}$ de la surface des planchers des pièces qu'elles éclairent.

Suivant le type de la chambre habitable, modèle dont les parois, murs et plafonds sont exposés directement à la pleine lumière, et dont nous avons exposé les principes au Congrès International de la Tuberculose de 1905—tous les poteaux extérieurs en ciment armé sont noyés dans les placards ménagés dans chaque pièce. Les poteaux intérieurs sont revêtus aux angles de pièces d'un treillis métallique s'opposant aux fissures longitudinales.

Pour les conduits de fumée, nous en avons fait une étude spéciale. La hauteur de chaque étage habitable de plancher à plancher étant de 3m.150, soit 3m. de vide pour chaque étage, nous constituons nos conduits en poteries curabées dans une ossature extérieure en ciment armé ayant d'un seul bloc 3m.150 de hauteur. De ce fait à 0m.800 au-dessus de chaque foyer se trouve le seul joint

disposé pour être vu et visité de chaque colonne de tuyaux de fumée. Nous avons ainsi assuré l'étanchéité pour ainsi dire absolue de ces conduits, ce qui est un perfectionnement dont on appréciera l'importance.

Si nous résumons en quelques mots les avantages de cette méthode de construction nous dirons :

Le ciment armé assure à un ensemble de bâtiments à étages une indéformabilité remarquable.

L'homogénéité de l'ossature générale donne à tout son squelette un linéonnement intime. Sans vouloir aller trop loin il n'est pas téméraire d'affirmer que les méthodes couramment employées pour l'édification de nos maisons à étages sont plutôt défectueuses à cet égard.

Les matériaux de petit échantillon constituant les œuvres vives de nos édifices courants—les planchers n'étant trop souvent qu'un assemblage incohérent de matériaux à dilatation des plus variables—que peut être le chaînage dans son ensemble et l'ancrage ? Illusoire la plupart du temps.

9. Armoured Concrete Construction in Monumental Architecture.

A Paper on the above by Herr A. de Wielemans (Vienna) arrived too late for translation and inclusion here, but will appear in the *Compte-Rendu*.

Resolutions of the Congress.

The following members took part in the discussion :—
MM. Augustin Rey (France), E. O. Sachs, E. P. Goodrich (United States), Max Clarke, G. B. Post (United States), A. W. Ruddle (Peterborough), F. E. Harris (Manchester), E. Warren, Louis Cloquet (Belgium), Henry Adams, F. M. Day (United States), Edwin Seward (Cardiff), E. W. Fritchley (Bombay), and Ellis Marsland.

On the motion of Mr. Max Clarke (London), seconded by Mr. F. M. Day (United States), it was resolved :

That this Congress considers it desirable that an inquiry be made in the direction of what failures have taken place in reinforced concrete buildings, and as to the causes of the failures.

On the motion of Mr. Edwin O. Sachs (London), seconded by Mr. Edwin Seward (Cardiff), it was resolved :

That this Congress is of opinion that, where reinforced concrete is intended to be fire-resisting, the greatest possible care should be taken as to the nature of the aggregate and its size, and also as to the protection of the steel.

SUBJECT IV.—THE EDUCATION OF THE PUBLIC IN ARCHITECTURE.

Thursday Morning, 19th July.—Grafton Galleries.

Chairmen : Sir Aston Webb, R.A. (England) ; Herr Stübben (Germany).

Hon. Secretaries : Messrs. A. G. Bzu Salm (Holland) ; W. H. Mitchell (Ireland).

1. By JOHN BEICHER, A.R.A., President R.I.B.A., President Seventh International Congress of Architects, London 1906.

The first step, as so often is the case, will be for the public to unlearn much that has been wrongly learnt. The superstitions of antiquity and the "styles" must be exploded. It must be made plain that neither a smattering of archaeology nor a superficial study of styles affords a sound basis for a critical judgment in matters of present-day architecture, which must be presented to the eyes and ears of men as a living art, founded upon past achievements, it is true, but instinct with a power and vitality of its own.

Neither is architecture merely a matter of a beautiful exterior; the importance of the "plan" of a building and of sound principles of construction must be pressed home. In other words, architecture is a science as well as an art, a blending of the two in such a way that the practical knowledge of the builder or engineer is interpenetrated by the artistic spirit, and made without prejudice or loss to subserve its ideals.

Instruction of a positive order will range itself under the three heads of Principles, Qualities, and Factors.

The principles of architecture are two, Truth and Beauty.

Truth requires that a building, both in its entirety and in its several parts, should never seem to be other than it really is.

This excludes all pretence of antiquity where no such claim exists.

It requires that a church should look like a church, a town-hall like a town-hall, and a private residence like a private residence.

An external shell of plaster over brick must not present the appearance of blocks of stone, nor a steel structure cased on terra cotta suggest solid masonry.

Good architecture never deceives the eye even for a moment. There must be no false suggestion as to the purpose or construction of the building, nor any hiding under one external feature that which is usually expressed by another.

The principle of truth, however, finds its widest scope in the true use of materials.

Every material has essential characteristics of its own, and therefore a proper place and purpose in building. There is a time and a use for stone and for each kind of stone, for wood and for each kind of wood, and so on.

To defy, neglect, or misuse the natural qualities of materials is not good architecture. These natural qualities will be roughly indicated under the head of Factors.

Beauty is the second great architectural principle. Its elements do not admit of popular exposition, but the public may be trained to recognise its presence by the appeal that it makes to their imagination and emotions. The fact that beauty can be felt, but not (ordinarily) analyzed, is of importance in the education of the public, as tending to withdraw their attention from mechanical rules to the spirit that animates and pervades, like a living thing, the highest architecture.

An appreciation of beauty of form is less common than susceptibility to colour effects, and needs training and development.

The qualities that distinguish good work from bad may be classed as follows :

Strength.—It is not sufficient that a building be, in fact, strong and secure ; it must look so ; it must satisfy the eye.

The engineer may by exact mathematical calculation know that the conditions of security are amply fulfilled, but the architect has to see to it that the work presents an appearance of strength and solidity. The larger and heavier parts must be below; every arch must have sufficient abutment or even a tie-rod as well; solids when placed over voids must be strongly supported, and so on.

Methods of support and resistance must be clear and well defined.

Granite in the upper story of a half-timbered house may, as a matter of fact, be quite safe, but it *seems* to threaten danger; placed below, it satisfies the eye with its impression of solidity.

Vitality.—Evidence of life and growth, most plainly illustrated in Gothic work, where the perpendicular lines rising heavenward and clothed (as it were) with luxuriant ornament suggest the life of a tree or plant.

It is vitality that gives ever fresh combinations and effects from the same primary elements.

Restraint.—The limitation of means to an end, the suppression of all unnecessary parts or details.

Whatever be the nature of the building, there should be purpose, definite purpose, in every feature or ornament.

This may be illustrated under the head of Proportional Divisions (see *Factors*); but the general principle is one which will be readily grasped by the intelligent layman, to whom it will often suggest a line for thought and inquiry.

Refinement is impossible without restraint, but it includes also purity of form and perfection of material.

Everything must not only be the best of its kind, but so suited to its purpose that Nature will seem to have expressly designed it for that use and place.

The fitness of certain materials and forms for defined purposes and effects is subject-matter for an important chapter in the education of the public.

Repose.—Every really good work is clothed, as it were, in an atmosphere of repose. There is a sense of power, but it is latent power; there is evidence of vitality, but it is restrained vitality.

Effects too pronounced hurt the eye; ornament too profuse wearies both the eye and the emotions. There must be no "loud" or vulgar elements.

Grace.—A dignified seriousness of purpose should be observed in the appearance of all public buildings, but an expression of the graceful courtesies of life should not be lacking. In domestic buildings this element of grace takes a more prominent place, and assumes a higher and more refined form, corresponding to the tender sentiments of home life.

The public interest ought to be readily roused in this direction, and a demand created for a better class of small suburban residence.

Breadth.—The treatment of the subject as a whole in a simple grand manner, the proper massing of the several parts, the subordination of detail to the larger forms of the composition and to the bringing of the whole design into unity.

An attempt may be made by illustration and comparison to explain this somewhat technical term, that the public generally may be led to understand and appreciate this quality of breadth, which is so conspicuous in every great architectural work.

Scale.—The right relation of the several parts to one another and to the whole in point of size.

It will be pointed out that there are different scales in architecture, as in music, and that the varying effects upon the mind and heart are as powerful and distinct in the one case as in the other.

Also that the scale should be appropriate to the cha-

racter and purpose of the building. A building of a monumental character or of great public importance should be designed and built on a large scale, and each part and every moulding should be of a proportionate size.

Factors.—In dealing with factors—the means which the architect has to his hand, as it were, for the attainment of his ends—it will be necessary to emphasise the fact that most, if not all, of these factors have their origin in utility, and answer some practical need in the construction or preservation of the building.

To forget this primary purpose and use them as means of artistic embellishment is to sacrifice use and convenience to artistic ideals, and is not true architecture.

The public are quick to recognise the importance of this in respect of window and door openings, floor divisions, chimneys, &c., but are apt to think of columns, pilasters, sills, hood-mouldings, cornices, and perhaps even buttresses as decorative rather than useful, and to suppose that the architect has a free hand in the disposition of them. Education in this matter will include instruction in the primary use of purpose of the common architectural forms, and will give an insight into the difficulty of making these forms serve the ends of use and beauty at one and the same time.

Such an insight—like propounding a problem—will go far to quicken interest.

The subject may be dealt with under the four heads of Proportion, Light and Shade, Solids and Voids, Balance and Symmetry.

Proportion.—Certain proportions are pleasing to the eye, and effects of proportion are obtained by the relative size of different parts.

The various ways in which the constructional parts and features of a building may be utilised to obtain proportional divisions, both horizontal and perpendicular, might be described in detail.

Light and Shade.—The advantage that may be taken of effects of light and shade might also be pointed out.

Solids and Voids.—The importance of a right adjustment of solids and voids, both in respect of size and position, would come next.

How easily a false scale may be set up, and a building made to look insignificant, by broad sheets of plate glass in the windows.

Balance and Symmetry.—These give a very distinctive character to a building, and aid in setting forth its special purpose. There is or can be rhythm in architecture, as in verse.

Material.—The right use of the various kinds of material furnishes an interesting and useful subject for public instruction.

The general principle having been laid down that every kind of material has its special characteristics, and should be treated accordingly—in other words, that its very best should be got out of it—a brief account of the natural qualities of the chief building materials (stone, wood, metal, bricks, plaster, &c.) would follow.

The following leading thoughts are appended by way of illustration:

When stone and brick are used in conjunction, the former should be accorded the more honourable parts—e.g., quoins, architraves to doors and windows, sills, cornices, &c.

Granite, even if it could be carved for mouldings, should be used rather for strength and solidity than for ornamental features.

When the beauty of marble or wood is in its figure or colour, it is best exhibited in the form of slabs or panels; if moulded, the forms should be large.

Stone is granular, wood fibrous: each has its

appropriate forms and mouldings, suggested by the natural qualities of the material.

Wrought metal admits of the finer and more delicate forms, metal cast in moulds naturally assuming a more bulbous shape. Both kinds have their appropriate place and effective use.

Well-known examples of wrought-iron and cast-iron gates and railings afford interesting illustrations.

The foregoing summary indicates the main lines along which the education of the public in matters architectural should be developed.

Whether in public lectures, or in articles published in book-form, illustrations should be abundant.

There are signs of a wave of public interest in architecture which "taken at the flood" may become permanent and lead to great results.

2. By T. G. JACKSON, R.A.

Importance of the public being qualified to know good from bad in architecture, since they are the employers with whom it rests to choose the designs of modern buildings.

Importance of architecture as the only necessary art, and one that cannot be evaded like the others.

Knowledge of architecture part of a liberal education.

Architectural works a main attraction to travellers at home and abroad. Nevertheless very imperfectly understood.

Various methods of educating the public in architecture considered.

The literary method. The vast bibliography of architecture.

Lectures on architecture, with illustrations.

Archaeological and architectural societies, with their meetings and excursions.

Inadequacy of these means to qualify for a sound judgment in dealing with modern architecture, because they deal with the subject mainly from the point of view of archaeology.

Imagined case of an archaeologist called upon to choose among a set of competition designs. His standard of merit will be based on conformity to precedent and ancient example.

Archaeology will never teach us to build up a new design sensibly and beautifully.

Proper use of ancient example, that of a tutor rather than a model.

Archaeological study of architecture, moreover, only touches one side of it—the outside features of bygone styles, not their inner reasonableness.

All styles in the past have been based on natural and social reasons, and mainly on construction, and their general form and features are such as have been suggested thereby and are expressive of it.

Greater dignity of architecture regarded from this point of view.

So long as we think the essence of a style consists in its outward features we shall fail to understand the true nature of it.

This, however, is the case to-day.

Architecture, whether ancient or modern, must be called upon to explain itself and give a reason for its design, and be judged by that, instead of by mere conformity to precedent.

One effect of the false view of the subject is to teach that architecture is ornament applied to building. A fatal fallacy.

Desirability of reforming the course generally taken by writers and lecturers in the direction above recommended.

Need of awakening public interest in modern work.

It rests with architects to show that our art is still alive, and not merely a dead language.

After all, the best means of education is by the production of well-designed buildings. Architects the best teachers, and real work more edifying than books or lectures.

3. On the Public Appreciation of Architecture.

By ARTHUR HILL, B.E., M.R.I.A.,

Lecturer on Architecture, Queen's College, Cork.

For the intelligent appreciation of any art or science some knowledge of that art or science is indispensable. It is not to be expected that the ordinary non-professional observer will take an interest in what he does not understand. To many people a new building represents nothing more than the money it cost, that being the only scale they are capable of applying to the object.

The value of University training for professional purposes does not now need an argument; the principle has been already adopted in some of the modern universities of this country. But why should the teaching be limited to professional students? Why should not the history of architecture, taught by a professional architect, be included as a branch of general history available to students specialising in history for the B.A. degree?

Several universities admit lectures on classic art and archaeology, but the "mother of all the arts" scarcely receives adequate treatment in lectures of this kind. Why limit the subject to the classic period? Does not architecture, taken as a historical study, reflect the social conditions of a people in one century as well as in another? Taken from its own standpoint as an art, how can an artistic sense be better cultivated or acquired than by a critical review of the best buildings of all time that have survived to the present day?

Lectures on the history of architecture, showing its true basis of evolution, delivered by trained architects, and with the prestige of the "university," would exercise an important and beneficial influence on the public appreciation of our art. For, in addition to the students who would take the university course, it may safely be assumed that through the medium of the University Extension System, which is bound to follow the example of the parent university, lectures would be given and considerable interest aroused among a number of people in many parts of the country.

There can be no doubt that the criticism of those who have had the necessary training on which to form an opinion would be a valuable aid to the development of good architecture throughout the kingdom and a stimulating influence both to the architect and his client.

This is not the only way, but perhaps one way in which the public may be brought to take more interest in our professional work.

4. By Professor OTIMAR V. LEIXNER, Architect. Custodian of the Imperial and Royal Central Commission.

[From the German.]

The solution of this question is of the greatest importance for architects as a professional class. The neglect of the public to take an interest in architecture has an unpleasant influence on the position of the modern architect with regard to his social standard, and also in relation to the question of the preservation of fine art monuments, which at the present time has become a matter of great importance.

I propose to consider this question from the following three points of view:—

1. What is the attitude of the public at the present time towards architecture?
2. Where are the causes of this attitude to be found?
3. What are the means and methods at our disposal to bring about an improvement in this state of affairs?

First Question.

The public of the present time generally shows a very lively interest for the art of painting, that for plastic art is very much less universal, and with regard to architecture the public shows almost no interest at all.

This scale of interestedness is very curious and very interesting to follow up.

If we watch the public in exhibitions of works of art, in the museums, and on travel we shall arrive at the following results: The interest in modern and in historical paintings is everywhere very great and very genuine. The public is, as a rule, well informed, and is able to explain a great many points; it often forms remarkably independent opinions, and is generally right in appreciating the value of individual productions.

At the fine art exhibitions and in museums the public gathers in groups round the pictures. It often shows a general interest, so that even works without any very striking features are the object of a minute examination. Now and then can also be found a very genuine interest in small plastic objects, whereas those of large dimensions, if they do not pass completely unobserved, are at least the subject of only a quite superficial examination. The judgment of the layman about plastic works of considerable dimensions is as a rule uncertain and timid. Only exhibitions of groups of plastic artists of very great renown, such as Meunier, &c., seem to command a really lively interest. If we go to the museums we shall find that the public remains in hesitating contemplation even in presence of the masterpieces of the plastic art of antiquity, while it examines with a lively interest even the paintings of inferior artists of the quattrocento. The public generally neglects visiting architectural exhibitions, saying, "Oh, we do not understand anything about it; there are nothing but plans." In the rooms set aside for architecture we generally only meet with members of our own profession. It is impossible to speak about an opinion of the public on questions of architecture; for even if it expresses one, it will be found that it is never the expression of an individual, but it will nearly always be found that this opinion has been influenced by other persons. In spite of all the uncertainty of the public with regard to styles of architecture, it always tries, however, to make out the style of any particular building; but the forming of an idea embracing the whole edifice is never attempted. Here and there some details attract some attention, such as doorways, windows, gables, verandas, &c. Unless his attention be drawn to them the non-initiated will pass without observation even before the most wonderful masterpieces of architecture. In the case of historical buildings the principal interest is often caused by the antiquity of the monument. Buildings in a state of ruin generally make a deeper impression on the masses than buildings which are well preserved. In the case of the former the mind of the observers is greatly influenced by the poetical impressions and by the character which the ruins give to the landscape. With persons who are not architects, but who possess a receptive mind for objects of art, the interest they show will always centre on buildings of a pure style in preference to those in which several epochs are represented. But the layman will never be able to follow the real idea of the composition. As a final result of our

meditations we may safely say that the public shows an indifferent or at any rate a very timid attitude with regard to architecture.

Second Question.

The reasons for this attitude are the following:—

1. The peculiar method of the education at school, especially in the teaching of freehand drawing in the lower as well as in the higher schools. Until quite recently it was customary to teach drawing in such a manner that the pupil only learned to know the level surface and the colour; the general rule was to give to the pupil a model drawing to copy, and the teaching was limited to two dimensions only. The teaching of drawing objects in perspective was limited to a minimum. By this fact is explained the understanding of the image and the colour, and the uncertainty or incapacity to understand productions of the plastic and architectural arts.

2. The interest in painting is, moreover, favoured by the great periodical exhibitions of objects of art by the museums, by the generally intelligent and good criticism in the newspapers, by the assiduous reading of fine art periodicals, which at the present time can even be found in café restaurants. Mention must also be made of the numerous popular lectures on certain subjects of modern and historic painting. A great influence is also exercised by the abundant and cheap literature about the art of painting (monographs of painters, &c.). If we come to the plastic art the circumstances are already less favourable.

In the exhibitions the plastic art occupies a much more limited space: its literature is much poorer, lectures on the subjects are few, and the criticism of to-day is much less prominent and more timid, and to this must be added the difficulty of understanding the laws of the three dimensions.

When we come to architecture it is almost totally deprived of all the necessary conditions of vitality.

The exhibitions are very few and far between, and public lectures on the subject are almost unknown, and finally there hardly exists any literature at all on this art. The understanding of the three dimensions in architecture is even more indispensable than in the plastic art. The criticism of to-day, even if it sometimes occupies itself with a question of architecture, is not generally lucid, and, as a rule, is not understood, because persons without any knowledge of the science of architecture will never be able to thoroughly understand a question of architecture unless the writer, however clever he may be with his pen, happens to possess the necessary technical knowledge. Finally, as a last reason, it is necessary to mention the opinions so diametrically opposed which exist among the body of architects themselves. By what means could the non-initiated form a somewhat clear judgment if the architects are nearly always at war among themselves about the principles of their art? Neither must we forget to mention the frequently astonishing negligence of Governments in giving the orders for a public building to be constructed. The modern State buildings, which if they were models of good architecture would contribute to educate the taste of the public, are often built by persons who have a very poor knowledge of art.

Third Question.

To bring about an improvement in this state of things Governments and the societies of architects must unite in their best endeavours.

1. The instruction in freehand drawing must from the beginning be given, not by model drawings of level surface, but from the actual bodies.

2. It should be the duty of the State to have public buildings of a certain importance constructed, not by officials, but by artists.

3. The societies of architects must carry out the following programme:—To arrange exhibitions of modern as well as of historic architecture; to give popular lectures on the subject; to take an active part in the literature on architecture, especially on questions of actuality; to gather together all the artistic elements, and to settle vital artistic disputes among the members themselves; to publicly exclude all those elements which in our days so frequently put architects of real artistic merit in the shade, and which contribute to corrupt the taste of the public; to give the most efficient assistance possible to writers possessing a technical education who contribute to render architecture popular by summary as well as by more voluminous publications; and finally to bestow particular attention on the cultivation of national art among the local associations, with a view to the preservation of the monuments of the country.

5. *Architecture and its Place in a General Education.*

By BANISTER F. FLETCHER, F.R.I.B.A.

PART I.—ARCHITECTURE.

The works of man, as presented in architecture, form a lithic history, and indicate the social condition of the peoples of bygone days, thus linking it inseparably with history.

The architecture of the Egyptians indicates their mode of life, the powerful priesthood, and belief in a future existence.

Western Asiatic architecture shows the records of a nation of warriors who employed their prisoners to erect elevated platforms upon which were placed palaces and temple observatories for the use of the astrologers.

Grecian architecture indicates the progress of Grecian civilisation, and the existence of temples, theatres, palaestrae, and stadia evidences the national love for religion, the drama, philosophy, and outdoor sports.

Grecian architecture and civilisation formed the parent stem of most subsequent European styles.

Roman architecture was a complex type, the use of concrete rendering possible the erection of various kinds of buildings. Roman civilisation was faithfully mirrored in Roman architecture, which became the type of all later European styles. Roman art and literature were at their highest state in the Augustan age. The decline of the Roman Empire accompanied the decay of art.

A new force—Christianity—brought about a revival of architecture; but this, like the new faith, was slow in developing.

Byzantine architecture, resulting largely from the removal of the capital to Byzantium, has remained as unaltered and unprogressive as the orthodox faith of the Greek Church.

The Romanesque style was one produced by the barbarian tribes who conquered the Roman legions. It was in imitation of the Roman art which they saw around them.

"Gothic" architecture was the result of the formation of the European States, the wealth, learning, and prominence of the monastic orders, and the religious enthusiasm of the time. The Church was the greater avenue for advancement during the Middle Ages.

The cathedrals formed the history books of the time, their beauty being due to the concentration of the artistic energy of the period. The fortified and frowning castles

of the nobles testify to the existence of the feudal system.

The Renaissance of the fifteenth century in Italy was brought about by the discovery of the Greek and Roman MSS., the invention of printing, the discovery of gunpowder, and the mariner's compass. Other events were the capture of Constantinople by the Turks in 1453 and the influx of Greek scholars and artists into Europe.

It became the fashion to talk in Latin, and there was thus a close connection between the architecture (which was a modified form of the Roman Orders in conjunction with the Byzantine dome on pendentives) and literature.

The invasions of Italy by French kings exercised a great influence by the consequent distribution over Europe of Italian artists and workmen.

In England the Renaissance synchronised with the Reformation, and was greatly influenced by the suppression of the monasteries, endowment of grammar schools, destruction of the old nobility in the Wars of the Roses, and the rise of the merchant class.

The facility of travel and other causes led to the revival of all styles in the nineteenth century.

Requirements of our complex civilisation produce modern types of building, and no new systematised style is likely in the future.

PART II.—ITS PLACE IN A GENERAL EDUCATION.

Why is architecture, the petrified history of the past, not generally included in educational schemes?

Its absence is probably due to its technical nature. Its importance as a general subject has not been realised, though it is inseparable from the progressive history of every civilised nation. The subject must be illustrated, for without views and plans it is akin to a play which is read instead of being witnessed on the stage.

The use of photography in conjunction with lantern slides nowadays enables a lecturer to fully illustrate any period of architecture.

The technicalities are simpler than in most scientific subjects. It can easily be invested with human interest and made intelligible to the ordinary student.

Architecture, as the work of human hands, is the result of brain power or thought, and is therefore more worthy of inclusion in a general education than a score of subjects which have secured recognition and protection.

A study of architecture enables us to interpret the moral, artistic, and religious character of humanity, and a knowledge of the profoundest characteristics of a nation may be gleaned from a study of its buildings.

It might be expected that our older Universities, such as Oxford and Cambridge, would welcome the study of an art which is so bound up with humanity of all ages, and would provide for a special faculty to advance the general study of architecture, apart from its adoption as a profession.

Its inclusion would be far-reaching, and many benefits would be derived by the public, who would thus be enabled more fully to appreciate the works of art which are to be found in the highways and byways of every land, and which serve as free galleries of art.

Further, the study of architecture is necessary to a complete understanding of history, and gives an added interest to travel.

Bishop Creighton defined architecture as the most democratic of all arts, and pointed out how it is equally for everybody—rich and poor alike. History has been to architecture what steam is to machinery, the grand propelling power; and it may well be described as the printing press of all periods. It calls into action so many branches of mechanical labour which promote national prosperity

that it is therefore more entitled to the attention of the general student than any other of the fine arts, a further reason why the general community should acquire a taste for it.

As the art which shelters us from the elements, and with which we come in daily contact—as the art which gives us “home” and enshrines and illuminates the most sacred of our associations—and, lastly, as the mother of all the arts, architecture is certainly worthy to be included in the curriculum of a general education.

6. By FRANCISCO DEL VILLAR Y CARMONA, MANUEL VEGA Y MARCH, and EDUARDO MERCADER Y SACASELLA.

[From the French.]

The want of architectonic education among the masses of the public is everywhere a general fact. Owing to local circumstances and to the various shades of the phenomenon it is generally attributed to different causes; there is in reality, however, but one, and this is the most pitiful ignorance of what constitutes and characterises our art.

The reality and importance of the subject are of course evident, as well as the necessity for affording concrete solutions that may modify the actual state of things for the benefit of the public, whose education will advance; of architects, whose status will improve in proportion as their efforts are duly appreciated; of art, by means of which it will ensure the respect of everybody, and will henceforward be free from sacrilegious attacks by the ignorant masses.

Public architectonic education includes two problems: first, to teach people what architecture is; secondly, to direct their taste, so that knowing what art is they may point out the best models. This second problem is only an aspect of the general one of artistic education, which nowadays one tries to solve in all art manifestations.

It is necessary to educate public taste in architecture as we educate it, for instance, in music or in painting. In reference to the first, I must say that though almost everybody knows, instinctively at least, what music is and what painting is, yet very few know what is meant by architecture. Therefore it is necessary to teach it, and before doing so it would be wasting one's time to pretend to educate public taste in art.

In order to solve the first problem it is necessary to make the public understand that architecture is all that realises art in a building. There is, or there ought to be, art in the selection of a site; in the distribution of a building; in its situation; in the selection of materials; in the silhouette of the whole building; in the composition of the façade; in the decoration of the inside; in the distribution of light and shade; in the sanitary arrangements; in comfort; in the cleverness with which inside and outside aspects, diversified or uniform, are brought about; in the whole impression of the building upon its dweller or upon the spectator; in colour; in relief; in proportion; in material security; in a word, in everything which reveals the thought of the artist-architect and the influence of his soul on the work. Art is to be displayed in buildings, gardens, towns, and even in the country. By architecture is meant the construction of a cathedral, of a bridge; the distributions of a mansion, as well as the projecting of a village; the sketching of a road, the aperture of a canal, if there is art in them.

To solve the second problem it is necessary to feed the public imagination with examples, as well as by teaching them what in the present and in the past has been best

produced in architecture; and in addition, to keep them free of all exclusive preference of school, giving them to understand that only what is true, sincere, direct and spontaneous is good in art. What really stands against beauty is untruth; and everything, whether poor or sumptuous, little or great, transitory or permanent, may be artistic if it be sincere. But what is architectonic sincerity? It is the essential quality of beauty, viz. harmony. If there is harmony between the aim and character of a building, between its wants and its aspect, between its style and distribution, between the forms and distances, between the impression of the whole and every one of its inherent parts, between its materials and the use made of them and its appearance, between the moral and material aspects within the order of the purpose which the building is to fulfil; if there is harmony between the immanent logical conception of the building conceived and its corporeal realisation, in the whole and in its parts, beauty then really exists. If there be anything, however so trifling, contrary to this harmony, no beauty can exist. That is the measure which must be made clear to the public, so that they may formulate their judgment with accuracy, and be enabled to give their assent only to what is a good æsthetic theory.

To obtain these ends we recommend the adoption of the following means:

1. Every Government should order to be placed in its primary schools photographs or drawings showing the classical works of all kinds and specimens of architecture, with an indication of its style and epoch.

2. The teaching of æsthetics and of the history and theory of the fine arts should be included in the general curriculum of schools.

3. Schools of every kind should be compelled to teach elementary architecture.

4. All countries should promote permanent exhibitions of architectonic works, conveniently classified, represented by drawings or photographs or models, and illustrated with short descriptive explanations.

5. Governments should encourage all kinds of publications for the divulgation of art, instituting for the purpose rewards and bounties. They should also purchase a considerable number of them for distribution among public libraries, and their price should be such as to place them within reach of persons of small means.

6. Free chairs should be endowed for the divulgation of the history and theory of architecture.

7. It would also be expedient to arrange cheap excursions to the most renowned buildings of all countries, the parties to be presided over by an architect who would lecture on the monuments visited.

8. Money bounties should be awarded for the best collections of buildings or architectonic works exhibited in cinematographs and theatre-sceneries, &c., of which municipalities should afford gratuitous displays.

9. Artistic educational associations should be organised for the propagation everywhere, and with all the means at their disposal, of the teaching of art, more especially of architectonic art.

7. By OTTO WAGNER, Imp. and Royal Superintendent of Works; Professor of the Imp. and Roy. Academy of the Plastic Arts. (On behalf of the Society of Austrian Architects.)

[From the German.]

The Architectural Education of the Public enters, by the discussions about Question I., already into that field from which a correct answer may be hoped.

If the best model buildings are created by eminent artists, the artistic interest of the public is sure to be awakened, or that already existing will be increased.

It is, however, to be understood that the main condition always holds good, viz. that these models shall be of a very high artistic order; consequently, that they owe their origin to first-rate artists. Artists of the first class will adapt every work to the purpose for which it is destined, in every particular; they will make use of the most convenient material, and of the proper method of construction, in order to produce the best forms of art. Only in this way the desired characteristic and beauty of the work will be created, and only these will be able to satisfy the spectator. No doubt, then, the recognition will flash upon the spectator that the artist expresses his ideas in a language intelligible to all. But if the spectator is able to understand a work of art, his aversion to enter into the study of a work will vanish, and will be replaced by the possibility and the will to judge it.

No doubt in order to create model works of architecture the co-operation of the State is necessary, because it is in the first instance the duty of the State to favour art, which is the gauge of civilisation of mankind.

This State help, in order that it may be efficient, is only possible by the State, the country or a city—since it does not itself possess the necessary artistic intelligence—making use, for the solution of all questions of art, of an appropriate organisation, a senate which should be exclusively composed of participating artists, who would have to watch that only good work be produced.

The answer to Question IV. must therefore be:

The architectural education of the public can only be rightly influenced by good work, for nothing is so victorious as good work.

8. By GASTON TRÉLAT (Paris).

[From the French.]

Summary.—The contemporary phenomenon of democracy characterises the world in which we are called upon to develop our powers. It tends to establish the equilibrium between classes. From it result comprehensions and feelings which from day to day become more general. So much for the nature of the spirit which characterises the public of our time.

Discoveries, which are due to the great initiators of the time, have lighted new paths in the matter of the salubrity of houses. Hence the anxiety with regard to the public health which we see nowadays. No sphere escapes from this anxiety, which seems to be a mark of our time, and which one may describe as a happy beginning.

In the same way, in consequence of an education perhaps unconscious but very real, the plastic arrangement of material has become a cause of impression in all social spheres. At least one meets everywhere people of unquestionable taste, who are sensible of correctness in form, this being always in accordance with the mode of imperfectly seen realisations.

Conclusion.—Architecture is related to many sciences which have a living interest for the public. It is the object of current applications for these sciences, from which results an immanent cause of interest for the growing mass of the intelligent public.

But, again, the number of the admirers of public beauty increases daily; and as architecture is a considerable element of it, one sees there the evidence of a continually increasing education.

9. By GASTON ANCIAUX. (On behalf of the Central Society of Architecture of Belgium.)

[From the French.]

In the words of Mr. Morris, "Art must be made for the people, and by the people." This latter idea, in the present state of things, seems to be rather utopic.

If, however, we must take care not to reject it as being too idealistic, it must, on the other hand, also be admitted that at the present time, in spite of the enormous progress realised in every field, we are not only very far from Art by the people, but also very far from Art for the people.

And why is this the case?

Camille Maclair in a recent article in the *Revue Bleue* tells us in a sarcastic but characteristic way:

"It is not a question," says Maclair, "of placing an individual who swears, who spits, who shouts, who does not wash himself, before a masterpiece and thinking one has done one's duty by him. What is wanted is to lead this individual by persuasive teaching to the idea that it is the duty of every reasonable being to become more refined; and it is in this way that he will be rendered capable of understanding and recognising in a beautiful thing the common inheritance of his race. In a word, it is necessary to form the character of the people in order to prepare it for art, and not to expect that in putting it into direct contact with art it will be provided with a character."

"A working man may render himself worthy of appreciating a masterpiece, but a masterpiece has not the virtue and has not been created to refine a working man."

And does not what M. Maclair expresses in such an incisive manner with regard to the people properly so called apply fairly exactly also to our crowds, to the great bulk of the public?

Without wishing to go so far, without wishing to be pessimistic, it must nevertheless be admitted that much needs to be done in this respect.

In fact it is with strong reason that the question of education with regard to architecture has been put on the order of the day of the present International Congress of Architects.

We therefore are of opinion that long explanations on this point would be superfluous, and we shall at once come to the conclusions which we wish to propose to the Congress on this matter.

CONCLUSIONS.

The education of the public in architecture can only be brought about by long, patient, and unceasing effort.

The most practical means to educate the public in matters of architecture are of a very numerous and of the most varied order.

Among these the following seem to us to be more particularly proper to give good results:—

A. For the future:

Within the shortest possible time:

To establish or to develop at the various stages of teaching special lectures adapted to form the taste for architecture; or better still, above all in the classes of the elementary and secondary schools, to infuse this element into the general matter to be taught without making it the object of a separate course of lessons.

For this purpose, especially to divert to a greater extent the teaching of the history of wars and of politics of the nations towards that of the various stages of civilisation, by characterising them by their stages in architecture, without, however, separating this characteristic element from the most salient features of manners, costumes, and social institutions of each of them.

Similarly to alter the direction in the teaching of geography in the same sense. For this purpose to arrange excursions for the pupils in their native town, in their province and their country generally, and even to foreign countries if possible. To illustrate with the same view the classical works with vignettes representing not only typical sites but also views of monuments and interiors (by preference of those still existing). To frame the text with ornamental fragments of an architectural and decorative nature by the best masters of the periods under consideration, and to choose only the most characteristic from among them.

To reform the present collection of pictures in schools in a more artistic sense by having recourse to artists of value, and by making use of the modern processes of perfect and cheap reproduction, such as phototyping, chromolithography, &c.

To put, however, into the hands of the pupils only elements of the very best kind, and to look to quality rather than to quantity, to the composition rather than to the details.

For the teaching in the most advanced classes, to create professorships specially affected to architectural art and its philosophy.

To have this delicate subject only taught by a particularly able and specially competent *personnel*, as in the adverse case the results can only be disastrous and diametrically opposed to the aim in view.

B. For the present:

To take action in such a way as to obtain the realisation of the following desiderata:

(1) The creation of not only central museums of architecture in the capitals, but also provincial ones in the smaller towns of the country.

These museums would either be connected with the museums of painting and sculpture, or rather joined to the museums for the moulding and decorative art of which they would form the head.

These museums would contain, besides the graphic executions, the rough models, the photography and aquarelles which would be more suggestive and more attractive to the public than the technical drawings.

These museums would also contain complete decorations of furnished interiors, where the properly so-called architectural framing largely treated would be accompanied by the explanatory graphic documents.

(2) The organisation in these museums of numerous public conferences and attractive temporary exhibitions of architectural works of recent creation or of projects of architecture, the latter in the widest sense of the word.

(3) For the public authorities to take care that only constructions, be they important or necessary, of a temporary or a permanent nature shall be erected which are proper to form the taste of the public.

10. By ALBERT MAYREUX.

[From the French.]

Of all the arts architecture is the one which concerns, or must concern, most mankind, since it is in relation with one of the immediate necessities of life—habitation.

Of all the arts architecture is the one which has in the highest degree exercised the genius of man, by the reasoning which is necessary for the conception of projects of an infinite variety, for their realisation, and for the research of an æsthetic sensation in most of these projects.

It is also the only art which, so to speak, was created in all its parts by man. Whilst painting and sculpture only contemplate nature in different ways, taken as a

model it is transformed by architecture, and new forms are created, and in order to succeed in this even new products are created.

On the other hand, the painters and sculptors have but few or no co-operators: the architect, on the contrary, has a legion of them, from the navvy who makes the excavations to the tiler or slater who covers the roofs, and this even for the simplest object, sometimes only a humble shed.

Architecture is, therefore, an eminently collective concern, which nevertheless must interest the people, if it is possible to explain to them the reasons for the interest they must bestow on it.

The works of architecture, from the simplest constructions to the most sumptuous monuments, may be considered as immovable objects which form one of the principal items of public wealth. Even leaving on one side the question of their usefulness, how many monuments, not to say even how many interesting constructions, are sources of wealth for the country. Chartres, Reims, Amiens with their cathedrals, Versailles with its palace, Rouen with its palace of justice, Nancy with its squares, and Carcassonne with its ramparts, bring to the towns to which they belong an undeniable moral as well as a material profit.

That is to say, that the creations of architecture have a right not only to the interest but also to the respect of everybody.

It is necessary to teach the public, to tell it again and again the value of the existing buildings, in order to prevent the mutilation and the total or partial destruction of the works of architecture, making appeal not only to the sentiments of morality and æsthetics, but to those of social economy as well.

Architecture being of all the arts the one which reflects in the most intimate way the moral state of a period, to such an extent that it has been said that a monument was a book of stone in which history could be read on its indelible pages, it must be understood how much its teaching may be interesting to the public from the point of view of curiosity alone.

That is to say, that the faces upon which these teachings can be read are numerous and varied, but in order to be able to read it is necessary that they should be brought within the intelligence of the spectators, according to the surroundings and the class of public.

Now the public to whom an architectural education can be given is of two kinds—

(1) The youth frequenting the schools and the soldiers.

(2) The independent public.

The teaching to the students can naturally be imparted to them in the schools, lycæums, and colleges, and that to the soldiers in the barracks, whilst on the other hand the instruction of the public may take place in the shape of conferences and collective visits.

A complement of instruction exists more or less for everybody in the books and libraries, but this is a means which it must be known how to administer, and which, in any case, is outside the range of a programme of special studies such as we wish to propose to the Congress.

The Teaching of School Children and Teachers.

Already in the elementary school the teacher can open the mind of his young audience by speaking to the children—of course only very shortly—of the general beauties of the buildings which can be seen or visited by all. But if he does not merely limit himself to a burst of admiration in the presence of superior works of art he will attract attention to some modest building; if in the country, for instance, before a barn, by trying to

analyse the work to an extent that his young hearers can understand.

He will say, for instance, first, what is its use, the reasons of its particular shape, the reasons of its walls, of its timber work, of its roofing, of the materials used in the construction, &c., so as to leave in the mind something more than a vague and in consequence fugitive impression. On another occasion he will take his pupils to a school house, a chapel, &c., preparing them in this manner for a more extensive education in the future.

Some visits to building yards in activity, or into work-shops where it will be possible to show the children the wrought materials, will be an excellent complement in the education.

In short, he will instil into them a sort of respect for the collective efforts which are already represented by those modest buildings, which will give them some idea of the gigantic effort which must have been at work in the building of the large church or the big town hall of the district which has not yet been spoken about, but which they may have had occasion to see already. Needless to say that in the towns the examples will be more numerous, but the method will be the same: from the simple to the more complicated.

For the lycæums and colleges, the teachers of which have had a superior education, the same subject may be developed by making use of engravings, drawings, and photographs of architectonic works, choosing simple rather than complex specimens, in which always the spirit of analysis and of criticism will follow the more or less lively phase of admiration which must necessarily precede in order to attract the attention of the audience.

With regard to the teaching of architecture in the normal schools for teachers, it may be much more developed in the shape of special lectures, in which an erudite and eloquent architect would be better in his place than a professor of science. In fact, in such schools, where teachers are to be educated, it is necessary to say and above all to explain more.

The general features about monuments are no longer sufficient; it is necessary to enter upon the essence of the subject, to speak of the basis of the programme, of the composition of the forms, of the proportions, of the relations, of the silhouette, and of the decoration; it is necessary to insist on the necessity of particular organs of the work which do not exist in other kinds of buildings, such as buttresses, large resting points, composed pillars, large or reduced bay windows, flat or steeply inclined roofs, &c.

Finally, the historic and archaeological part, which is altogether omitted or very limited in the elementary school, at the college, and in the lycæum, becomes very important in the normal schools.

The study of the style, its tendencies, &c., complete as far as possible the teaching in question.

The Teaching of Soldiers.

It is naturally at the barracks that the instruction of soldiers can be carried out, but, as it is rare that the garrisons are not placed in a town of some importance, the officers will be able to arrange visits to the monuments and to the factories in the district, under the guidance of men whose professions in civil life are connected with the building trade.

At the barracks those officers whose tastes are in the direction of practical science and art could deliver some lectures on the monuments visited, and if, in the course of the manoeuvres, the troops encamp in a region which possesses one or several monuments of some interest, these officers could, in the moments of leisure, explain

to their men what they know on the subject, the historic features of the buildings, the nature of their construction, the judicious use of the materials, &c., and finally explain the respect which should be shown not only to a fine piece of work, but to a collective work produced by the united efforts of so many artists, craftsmen, and labourers. Finally, they might insist upon the moral consequence of the love of manual work, the tenacity and the faith of which the men of those trades gave proof who contributed to produce these admired monuments.

The Teaching of the Independent Public.

Once come out of the school or the college, and free from military service, man becomes free of his movements, and if his tastes carry him towards the study of art or archaeology he can, without being a specialist, increase his knowledge in architecture. For so doing he must feel some inclination, because nothing obliges him to do so, and if he is encouraged to cultivate it this must be done cleverly and wisely.

To accomplish this end the best of means to attract the independent public is once more the public lecture made pleasing and attractive.

The lecturer will therefore, as a rule, after having explained his subject, commence by showing by drawings prepared for the purpose, or by photographs, the monuments about which he is going to lecture. If he is able to make good sketches on the blackboard this may be excellent. Finally, if it is possible to have recourse to projections with the oxyhydric light he will do well to use this process, because the magic lantern of our fathers, especially with its modern improvements, exercises always the greatest attraction. To see, being comfortably seated, without even having to go to the trouble of turning one's head or the leaflet of an album, to hear explained at the same time the edifice in question, to make no other effort except that of understanding, is the ideal of the great majority of the public attending at lectures. If the hearer understands, so much the better; if he retains nothing of what he saw and heard he has at least been amused. In fact, you no longer amuse him if he stays away from the coming lectures.

By the side of these hearers, who are merely curious, there are sure to be some others who want to learn, and for these the lecturer will do well to complete the general descriptions, showing cause why it is justifiable to admire architectural works exposed to view for the purpose of arousing the enthusiasm of the public, by explanations about the technical part of the arrangements and of the way in which they are constructed. Over and above the beauty of the proportions and of the decorations which alone generally captivate the uninstructed public, he would speak of the structure, of the essential organs, of the practical points which gave origin to the conception of the building, interweaving from time to time, with a view to break the monotony of the demonstration, some anecdote, a fragment of history, a legend, and the like. If he makes the audience laugh or smile so much the better; if he wants to make his hearers think and reflect too much he will soon create a relative emptiness in his lecture hall. This kind of lecture requires some wit and tact.

One piece of advice the lecturer might give with advantage to his convinced hearers will be to have recourse to libraries, by pointing out immediately the works bearing on the subject of which he is treating, so that they will be able to fill in the gaps of a description which must of necessity be summary and rapid, because the strained and prolonged attention is a fatigue which the hearer only wants to bear within certain limits. The

independent public—that is to say, persons who are not compelled to do anything—is very difficult to satisfy, and the convinced among the hearers are more exacting than is generally thought, for the reason that it is seldom that an immediate aim is the cause of their attendance; it is rather a vague and healthy curiosity which induces them to attend at lectures.

To instruct and at the same time to entertain, even for such a serious subject as architecture, such is, in our opinion, the line of conduct to be followed before an audience of independent listeners.

It is impossible here to draw a positive programme of instruction, the professors and lecturers being of different temperaments and aptitudes; it is only possible to point out a general line on which to proceed.

Collective visits to monuments and even to towns on the road of excursions at reduced prices, and all the pleasantness connected with similar excursions in company, are also to be enumerated among the best means of teaching architecture, because the sight on the spot conveys more to the mind than the best of photographs, and with a good lecturer elicits the result, which, in short, is to succeed in developing interest and respect for the monuments and the necessity of their preservation, will then be completely obtained.

The question put by the Congress which we have answered in the foregoing seems to be of primordial importance, and we therefore utter the wish that societies similar to ours should study the elaboration of *Standard Manuals* for the use of lectures.

11. By JEAN GILSON, Architect, Brussels, Professor of Drawing at Boisfort.

[From the French.]

"Art comes from man and is intended for man. It is the flame of a spirit, its radiance; it cannot fail to affect first of all the being from which it emanates, and afterwards, from one to another, some other beings," said M. Serpillanges.

It is the same with Architecture, the queen-mother of all the arts; destined, above all, to strike and to captivate the attention of the public. To attain this highly desirable end, which ought to be the object of a noble emulation, always on the alert, it would be necessary, to start with, to try to call forth gradually among the general public the beginnings of the æsthetic sentiment, which in a great number exists in a latent state.

It is therefore necessary that those who are convinced, the enthusiasts who possess the cult, and consequently the enthusiasm for art, shall fight, without respite and without weakness, against the slow and growing invasion of the domain of inspiration by pedantry which pretends to dominate and to reduce to mathematical dryness the creating genius.

Thus it happens that too frequently the mission to initiate into that immaterial thing called "art" is entrusted to *pedagogues*, to teachers, while the professional practitioners who have made of æsthetics and of their multiple applications the study and the constant practice of their existence are given the cold shoulder.

It would therefore be greatly desirable that *only* persons initiated into the sublime and imperishable beauties of art, special professors who have shown special capacity and made special studies, should be entrusted with giving to school children as well as to young men a good and healthy education of their visual organ either by the daily environments of the educative centre, or by rational visits to museums, by excursions, by illustrations, books, &c.

For it is desirable to try, from early childhood, to move

the hearts which gradually and naturally will feel themselves attracted in this manner towards the works of art.

Art and history are in relation with each other, and art is the man.

In every epoch, in the creations produced by Genius one can see manifest itself for posterity all that which characterised the man-creator: his thoughts, his feelings, the moral and social life, in a word the various degrees of civilisation at work.

Consequently it is necessary that our creations should speak with eloquence to the attention of the passer-by or to the visitor, that they should be healthily conceived, and that they should represent clearly, by characterising it, the idea of their author. It is important that these creations should be in direct relation, not only to the surroundings in which they are placed, but also to the customs which have inspired their creation; it is necessary, moreover, that all the decorative arts should move in harmony with architecture, so as to give the impression that they were all one and the same conception!

Let us likewise avoid the mistakes and exaggerations of the modern at any cost!

Let us carefully avoid trying to be innovators moved by the unwholesome desire to astonish, to stupefy the public!

Let us prove to this public that we endeavour to initiate it into the imposing splendours of the beautiful, to all the importance of arduous work, to the never-ceasing study which our art requires.

Let us make efforts to revive again the corporative spirit from which came to us those admirable and sublime creators: artisans, ignorant of the rules of pedagogy, even almost illiterate, which did not, however, prevent them from producing immortal pieces of workmanship, pure masterpieces of architecture, of tapestry, of ironfoundry, of joiner's work, &c.; privileged practical workers with an immortal genius, to whom we are indebted for our jewels of architecture as well as for our jewels of the decorative art, the one forming the pride of our ancient cities, the others the wealth and the value of our museums.

Being thus animated only by the care for the vital interest, for the future and the dignity of our profession, let us unite our efforts so that we may succeed in the creation of the *diploma*, which would be granted by a jury composed of master architects of recognised talent and merit.

This essential measure of safeguard would keep away the ignorant and incompetent who in our day give themselves the name of "architects," abusing this title, and, in fact, creating great prejudice to the prestige and good reputation of the profession!

To obtain this desirable end the *Press* might be a powerful auxiliary.

If the *Press* would second our efforts, what a glorious educative part it would play!

It could interest and instruct the public by publishing judiciously written articles, commenting upon and bringing before its readers the qualities and merits of the works which are really worthy of such name.

Let us declare it: it would be highly desirable to see the *Press* bestow on the architects a little of that interest which it lavishes upon painters, sculptors, musicians, and writers. In the same way as the Muses are sisters, are not the Arts brothers?

It is by reason of this fraternity that I make appeal to those who wish that marvellous instrument of publicity—the Pen!

In conclusion I would say that the vital interest of the country, our dignity as disciples of art as well as the defence of our professional interests, oblige us to rally ourselves incessantly, courageously, without relaxing,

into a fraternal union against the fatal tendencies which in the end would render it impossible for architecture, that grand book of tradition, to add marvellous pages to the glorious annals of Belgian art!

12. By Dr. HERMANN MUTHESIUS (Berlin).

ART. 1.—It is a common fact that architecture is unpopular, probably the most unpopular of the arts. This is especially evident by comparison with the enormous interest which the public take in works of painting and graphic art.

ART. 2.—But it seems doubtful whether a so-called education of the public in architecture will hit the point of the problem. The present low level of understanding and interest in architecture is probably to be considered as a symptom of the fact that, in our days, architecture itself has lost much of its public importance and value.

ART. 3.—This becomes evident by a comparison of the architecture of our time with that of the great epochs of the past—the Greek, Roman, Mediæval. Architecture was then the leader of all the other arts and crafts; and this was the case because it was the universal art and had to deal with all the constructive and building problems of the time.

ART. 4.—In our days the problems of the engineer, the perfection of our system of locomotion, of our comfort, of our labour-saving machinery, of our tools and instruments, play a more important part than the works of the architects proper, of whose tasks only the laying out of streets and whole cities touches the great problems of our time.

ART. 5.—The engineer, having to fight hard with the urgent problems of our time, is compelled to look straight ahead, and consequently he generally works unbiassed by minor circumstances and considerations. Whereas the architect of to-day, hampered by historical tradition, generally looks backward, and makes his works appear rather works of a past age than works of the present day. The history of architecture of the nineteenth century shows a remarkable falling into archaeological tendencies of various and often contradictory kinds, so that true architecture nearly expired, and the result of the architect's work became a mere application of historic details of style.

ART. 6.—Even the architecture of the present day is largely biassed by archaeological principles, which is shown (a) by the importance still attributed to style (we still build "Romanesque" exhibition halls, "Renaissance" railway stations, &c.); (b) by the position retained by a great number of architects towards our old buildings which are still being restored by them in the so-called spirit of a past age; (c) by the endeavour, frequently met with, to conserve the character of an old street or square by putting imitations of old buildings next door to the originals.

ART. 7.—The fact that also the architecture of the present day is biassed by archaeological tendencies has in several cases aroused the opposition of the well-educated public against the architects, as, for instance, in the question of restoration.

ART. 8.—On the other hand, it is to be noticed that great architects of originality, who rather create modern than archaeological works of architecture, have found support and even enthusiasm amongst the less educated classes of the public. Names are omitted, but every country shows examples of what I mean.

ART. 9.—This enthusiasm springs from the same source as the present enthusiasm for the modern art movement in the decorative arts. The reason is in both cases a certain impression on the part of those who

participate in it that such architecture has found again the basis of modern feeling and that the archaeological masquerade has been dispensed with.

ART. 10.—The stepping in of archaeology into the art of building has been the great disaster for the architecture of later centuries, and has caused the decadence of true architectural life. Archaeology, high though it be as a science, has nothing to do with living art, and ought to be separated from it most thoroughly.

ART. 11.—By archaeology the public has been mis-educated, and that detrimental interest in "styles" has been aroused which now proves to be the greatest of all hindrances to grasping the true principles of architecture. Those architects who work still in "styles" foster this fatal state of things, and form a community of mutual support with the public, which renders it more and more difficult to get away from this false course.

ART. 12.—If the public is to be educated in architecture, this can only be done through the means of works of architecture which show a genuine modern feeling, and are impressive by themselves, not by their resemblance to works of past ages. Such works of modern architecture are still exceedingly rare.

ART. 13.—The best means of educating the public is to have more of these and to leave "styles" alone. The so-called education of the public includes, therefore, in the first instance, the education of architects.

So much on the *principles* of the subject; the following remarks refer rather to details.

ART. 14.—The participation of architecture in the annual art exhibitions has not proved a success. The architectural room is generally empty.

ART. 15.—A better scheme would be to exhibit models instead of drawings, as models alone can give an idea of the stereometric effect of a building. Besides, they are attractive in themselves. Architectural drawings, even if perspectives, mostly arouse interest only as graphic works, and are then very often at a disadvantage with the works of graphic art shown in the adjoining rooms.

ART. 16.—A very powerful means of education is literature, as by reading alone a great part of the present public can be influenced in its mind.

ART. 17.—But it is of little value if good information on architecture is only given in professional papers, which is the present state. Professional papers are not in touch with the public, who acquire their information from the daily Press and from magazines. It is therefore urgently necessary that good information should appear in the latter.

ART. 18.—But, alas! the usual writers for papers and magazines are not able to give good information on architecture, being laymen in an architectural sense. It is therefore necessary that competent writers on architecture, who now are chiefly absorbed by professional papers, should devote themselves more to newspapers and magazines.

ART. 19.—Besides the information in the public Press, public lectures, if given by competent men, are a good means of educating the public. Architectural societies should make it their duty to induce universities, university extensions, colleges, schools and societies, to have lectures given on architecture by thoroughly competent lecturers.

ART. 20.—But all means of education by word or writing are useless if they are not inspired by modern spirit, if they are not employed by thoroughly competent men, and if they do not attach themselves to works of a genuine modern character. Though it seems quite safe ground to base art education on works of past ages, it is a common experience that by the superficial way of such instruction a mere romantic interest is aroused which

is less than useless as a factor in architectural education. Moreover, there is plenty of opportunity of education in historic art. What is wanted is to arouse interest in the architecture of the day. An education for problems of our time can only be effected by works of our time.

After the reading of the Papers a discussion ensued, in which Messrs. Albert Kelsey (Philadelphia), Bernhard Felisch (Germany), Hugh Stannus, A.R.C.A., and H. P. Berlage (Amsterdam), took part.

No resolutions on the subject were proposed.

SUBJECT V.—A STATUTORY QUALIFICATION FOR ARCHITECTS.

Saturday Morning, 21st July.—Grafton Galleries.

Chairmen: Professor I. G. Clason (Sweden); Mr. Edwin T. Hall (England).

Hon. Secretaries: E. Chujo (Japan); J. T. Cackett (Northern Architectural Association, England).

1. By J. S. ARCHIBALD, Architect, Montreal, Quebec.

The subject is a delicate one for the profession to discuss, as motives can be so misrepresented; but for want of advocates outside the profession all the necessary agitation must come from within. The charge has been made that it is only another species of "trades unionism," but on consideration it will be found that the principles underlying the formation of "trades unions" are wholly different from those which actuate us. The former is purely a movement to regulate the compensation and earning powers of the individual, whilst the latter is a movement to raise the standard of professional practice and to safeguard public interests.

Generally speaking, there are two sides to architecture, viz. the æsthetic and the utilitarian. As regards the latter, especially in its constructional aspect, there can be no difference of opinion as to the necessity for the most careful examination before being permitted to design and erect buildings. The object of an architect's labour is to prepare, generally speaking, for habitation by humanity. Human life has always been looked upon as valuable beyond price and compensation. It is recognised in the practice of medicine and law; why should it not be recognised in the practice of architecture, where requirements are demanded combining science, chemistry, and law?

We are hedged about by legislative enactments which at their root must have emanated from the conviction that the practice of architecture was a responsible one, calling for particular training and study. Architects are compelled to erect buildings under the direct superintendence and dictates of the law. The only inference to draw is that the practice of the profession is of such a nature that the individual cannot throw off all responsibility the moment the contract is complete. The logical sequence would also be that the law would make provision that all who enter into the practice of the profession would be found fully competent to carry out the spirit and dictates of such enactments.

It is obvious that such competence can only be established by a series of examinations. This is not always the most satisfactory method, but for want of a better we needs must adopt it. Such examinations must be all-embracing and wielded by powers beyond the faintest tinge of suspicion, and removed in the public eye from all question of self-interest.

With respect to the æsthetic side of the professional practice the standard of qualification is more difficult to set; but there is a basis which no one should be permitted to evade. We are all influenced to a greater or less extent by our environment. If in such an environment beauty is absent and ugliness predominant, depravity and a low moral condition will usually be

found amongst the people. On the other hand beauty is usually accompanied by refinement, a higher state of civilisation, and, as a rule, a higher moral condition amongst the people. It is therefore incumbent upon our legislators to recognise such influences. Such influences have been recognised from time immemorial. Plato has discussed the question fully in his *Republic*, and even in those days he argued that State superintendence should be extended over sculpture and building, "so that they may be prohibited from exhibiting all forms of vice, intemperance, and meanness."

A sense or perception of the beautiful is to be found within the soul of every human being. It should be our pleasure to encourage it at all times, to influence our community with its heaven of goodness, and it should be the duty of the State to recognise such influences and to grant a statutory qualification to prevent influences other than that of the good to be over her people.

The Province of Quebec Association of Architects is the pioneer (on the western side of the Atlantic at any rate) of statutory qualification for architects. This law was founded in 1898 as an amendment to the charter of incorporation. It was granted because it was deemed expedient for the better protection of public interests and in order to enable the public to distinguish between qualified and unqualified architects, and to insure a standard of efficiency in the persons practising the profession, and for the advancement of the art of architecture. This law reads, "No person can take or make use of the name or title 'architect' unless he is recognised under this Act and as a member of the Association." The machinery is provided for the carrying out of a system of examinations and for the enforcing of the law.

2. *The Title and Diploma of Architect.*

By LOUIS BONNIER (Paris).

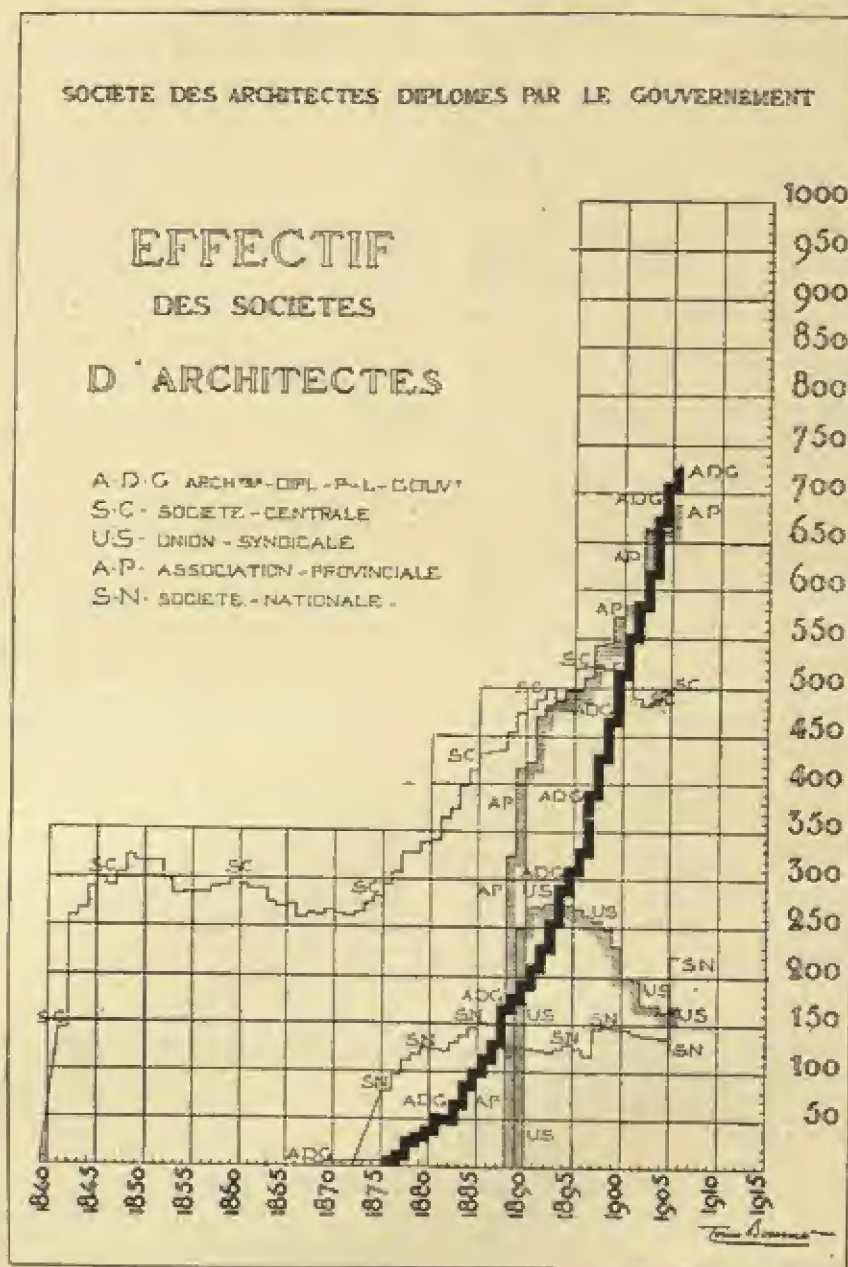
[From the French.]

Science is not an individual possession; it is the result renewed over and over again of acquisitions previously made. If certain more favourably gifted individuals, or those who come upon the scene at the precise moment when an idea which has become mature is disclosed to the world, increase this property all of a sudden, and illuminate their epoch by the radiance of their intellect, then the regularity of its evolution is so much a necessity that the innovators who see too far are often not understood by their contemporaries. In the same manner reactions only succeed in stopping progress for a short time.

In the region of art, where individuality would explain itself more easily, if some artists of the plastic arts seem sometimes to be able to do without teaching, these

exceptions only occur among those who cultivate specially and exclusively one branch of their art, vibrations of light, movements of lines, &c. And even they cannot escape from artistic heredity, from the teachings of their surroundings. Organised societies therefore are right to endeavour to transmit and to increase this intellectual wealth, the acquired results, the raw material for future

These two teachings which form a whole can, it is clearly understood, be theoretical only. They cannot be separated without giving incomplete results—either draughtsmen or builders, but not architects. Not architects: that is to say, not artists, whose mind, formed of logical ideas and of decorative feelings, is ready to undertake any studies, any adaptations, any kind of progress, able to choose



progress. Thus we have, in art as well as in science, methodical teaching.

In architecture, which is at the same time the outcome of art and of science, more than in any other art, teaching is a necessity. Technical teaching, a deep study of the requirements, a reasoned knowledge of the materials, judicious application of the processes, and artistic teaching, grouping of masses, harmony of lines, taste in details.

from among several solutions proper to satisfy the engineer, the best, that is to say the most harmonious, the most beautiful. If the teaching is necessary for the transmission of the acquired results, it cannot be really efficient and useful unless it be accompanied by a sanction pointing out clearly the person to whom, amongst all others, may be entrusted with perfect safety the fortune of private persons and the budget of the State, the health

of the individuals and the hygiene of the population, the preservation of the art treasures of a country, the improvement of the comfort of family and social life.

This sanction is the diploma.

The diploma which is the consecration of long scholastic studies, preparing the architect for all eventualities, cannot and must not be obligatory in a free country; it is only an indication and, as it has been rightly called, a powerful presumption of artistic and professional capacity. It naturally corresponds with a want which, for a great number of years, has been puzzling the mind of architects, and which forms part of the programme of every Congress. This want has received full and complete satisfaction in France. The facts are there to prove it—they are evident.

The campaign was started as far back as 1840.

Since that remote period the Central Society of French Architects took the initiative, and during more than twenty years, by means of controversies, reports, and steps it fought the good fight until the day when, in 1863, M. Eugène Guillaume obtained from the Government the decree instituting the diploma.

After a period of modesty and obscurity, during which the first possessors of the diploma, without a bond, without influence, without protection, and treated as intruders, were the object of attacks as furious as they were stupid on the part of short-sighted architects, the architects with a diploma formed an association in 1877.

During a great number of years they struggled only to live, to hold on. Little by little their numbers increased. When they had become 200 the hostilities grew less; when they became 500, they were at last recognised.

There are to-day 750 distributed all over France, at the Institute, in all the great State administrations, in those of the provinces, and of the large towns. They constitute special groups in the Colonies and in foreign countries, in Switzerland, in the United States, laureates of the public competitions, propagating, to the best of their endeavours in the general interest and in conformity with their programme, the cult of the high studies of architecture.

In 1912 they will be 1,000; the sketch annexed to this summary shows it distinctly.

This striking development and this uncontested prosperity of the diploma in France show what an imperious want was answered by its creation. We are of opinion that, in the interest of all concerned, it is necessary to surround the title of architect with guarantees and to sanction it by means of the diploma.

8. By GASTON TRÉLAT (Paris).

[From the French.]

Summary.—Diplomas are a good thing in proportion as the studies which they represent magnify and elevate the title of architect to the height which society prescribes in order to understand its aspirations. But they might easily become a cause of deterioration or, what is equivalent, of incapacity to understand anything but the knowledge and applications belonging to a special education. Then a diploma, taken as the criterion of every application of art or of useful knowledge, would be the height of human inanity.

Individual efforts are nowadays more necessary than ever in consequence of the movement that one can remark everywhere, and which is of a nature to raise up initiatives on all sides. As the syntheses of the collective interests it is the duty of States to ensure the free expansion of work, and consequently to oppose everything which might resemble a privilege. At a time when

knowledge tends to become more general every day, competition ought to be freer than ever. Interests, narrowly understood, often lead men to desire, with selfish blindness, to create small artificial states within the great State which is under the control of the parliamentary delegation. This is a danger to which thinking men have no right to close their eyes. These small artificial states are always causes of disorder in employments. They are calamities both in regard to the development of human intelligence and to the organisation of society. Factitious authorities appear, thanks to these small states, with interests opposed to the collective interest. In their exclusive preoccupations of persons or clans these authorised simulacra could not be equal to the exigencies of contemporary evolution. They are misleading powers which would become obstacles to the requisite rectitude of the efforts which initiatives individually directed would naturally be led to produce.

Conclusion.—When they are confined to being stimulations to work for young people, diplomas are an excellent thing. But they would become detestable if they were to trammel the free activity of the technicist in later life.

The field of action is never opened wide enough to the aptitudes that society comprises. The advanced civilisations of Europe are often a cause of weakness in individual production. To understand this one has only to cast one's eyes on younger peoples where the social organisation encourages individual worth, which might serve as examples to us.

I repeat this opinion: though the diploma is for the student a verification of his efforts, it becomes eventually an incident without influence on the career of a man of worth.

One must go forward without ever looking behind.

4. By OTTO WAGNER, Imperial and Royal Superintendent of Works; Professor of the Imperial and Royal Academy of the Plastic Arts. (On behalf of the Society of Austrian Architects.)

[From the German.]

Legal Authorisation of the Architects.—On this point we beg to make the following observations. On all sides the endeavour of artists to favour the progress of art is strongly prominent. Nay, they are in fact the only promoters of art, since the public, entirely absorbed as it is in the acquirement of riches and in politics, has lost almost every sentiment for art. It can therefore be understood that the desire makes itself manifest to protect art, and it is thought that this end will be obtained by giving the title of Architect a legal recognition.

This legal backing, as has been shown before, is not possible. But neither is it necessary at all, because it is not the question of admitting legally recognised architects to the construction of artistic buildings, but that only the very best be produced. If, therefore, the State, the country or a city, or its administrations, respectively make use of a senate of art, there is in this way created an artistic control from which it can best be hoped that the desired goal will be reached.

If the architect is given a legal authorisation, it cannot therefore be a question of the artistic capacity of the architect, but an official control can only be admitted with regard to his professional quality. But this control is very easy, since all authorities have their well-organised boards of works which can exercise control when giving their consent for the construction.

The legal process must therefore consist in that the architect by his signature accepts the responsibility for

the plans made by him, and that he covers himself by the contractors of the various parts of the work, who have in their turn to produce the calculations made and revised by them.

The answer to Question V. must therefore be as follows :

The architect has the right to construct any building by the plans made and revised by him if these have been passed by the artistic and technical control.

5. By ROBERT WALKER (Cork).

In calling the attention of the Congress to Subject No. 5 on the programme, it will be convenient to say here that there is parliamentary precedent to be found in the Statute Books of the House in which Registration Bills have passed into Acts with a view to conserving the interests of the professions and the public in their relations each to the other.

Without giving a long list of the professions so dealt with, it will be sufficient to name the cases of solicitors, barristers, physicians, and surgeons. The Medical Act is apposite to the requirements of the Architects' Education and Registration Bill.

The words "statutory qualification for architects" are consonant with the interests and well-being of the communities and peoples throughout His Majesty's vast jurisdiction, from the peasant in his cottage to the dwellers in royal palaces.

It will be seen, therefore, that this subject is in touch with the interests of the whole community, and is so far-reaching in its common interests that it extends to all the countries of the earth.

It is pre-eminently a subject of international interest, and is fittingly placed on the programme of this Congress.

The word "architect" is derived from two Greek words, *ἀρχις* and *τέκτων*, and signifies "chief constructor," which would appear to involve complete control and guidance from the inception of the design to its final completion in fitness, strength, and beauty.

The word "qualification" signifies that the architect (or the chief constructor) should be duly qualified to undertake those responsible duties by the acquisition of an irreducible minimum of general and expert knowledge and technical education and equipment, in accordance with a curriculum laid down by the General Council, when appointed by Parliament under the stipulations of a Bill which when it passes becomes law, making compulsory "Statutory Qualification for Architects" by placing the Bill on the Statute Book as the "Architects' Education and Registration Act."

The necessity for such an Act appears to be conceded generally owing to the consideration that has been given to the subject during the past twenty years.

The members of recognised architectural bodies should be registered on their proving their membership, or on verified lists being sent to the Registrar by the Secretaries of those bodies.

The stumbling-block which has chiefly and ostensibly retarded the progress of such a measure for all those years, coupled with apathy, indifference, and jealousies, is precisely the same as that which blocked the Medical Act for thirty years, from 1828 to 1858, namely, that Parliament declined to pass a measure which made no provision for the vested interests of the unqualified men who assumed the functions of medical practitioners, and were accepted by the public in ignorance of their want of expert and technical equipment. It may be possible to come to some arrangement on this matter by way of compromise with the Select Parliamentary Committee.

A time limit of, say, five years may be agreed upon,

during which practitioners could prove that they were in practice prior to the passing of the measure.

There appears to be no doubt but that the trend of opinion is in the direction of obtaining statutory qualification for architects, which will protect the members of the profession and the public, in the prescribed parliamentary form of an Education and Registration Act having the short title "Architects Act."

The sooner such a measure is placed on the Statute Book the sooner will the evil complained of disappear. It will not impair the status and privileges, or invade the membership of existing architectural bodies.

The placing of the names of persons having what the Legislature denominates vested rights does not confer the right to membership in any of the existing bodies.

"Statutory qualifications" are qualifications enjoined and required by a curriculum, prepared by a competent authority, made compulsory by statute, and tests applied by competent examining bodies whose functions commence when the competent teaching bodies have completed their work; the results of the tests are then recorded and published in a book called the Register.

When the Bill reaches the Committee stage, memorialists in favour of it and petitioners against it would be heard at length, when clauses may be amended, struck out, or new clauses inserted by agreement. Should the Committee find that the preamble was proved, it would be sent back by them to the House; and if passed it would then become law and be placed on the Statute Book as the "Architects Act."

Want of qualification on the part of persons employed as architects may result in injury to life or health, discomfort, pecuniary loss, lawsuits, embarrassments, and much loss and damage without a remedy.

Any means that can be devised even to tend towards guarding the public against the evils attendant on incompetency will be hailed with satisfaction by the profession and the public alike. Reforms should come from within, and it is clearly the duty of the profession to initiate and work out this movement.

6. By VIRGIL NAGY (Budapest). (On behalf of the Association of Hungarian Architects and Engineers.)

The enormous quantity of technical work done in our age and the overpowering development of technical arts have brought forward in many countries all over the world, in certain respects, undesirable conditions, because the quantity of work and the wide fields of occupation have caused undesirable competition between well-trained people—in our case architects—and people who are not well-trained. The public, which perhaps all over the world is more or less ignorant in matters of our art, very often thinks that its interests are best, or at least as well, served if the cost of the architect's work is the smallest possible, and, in consequence, it very often spoils a ship for a pennyworth of tar. The result very often is, besides deficiency of art work, badly, unpractically laid-out buildings, much to the loss of private and national wealth. On the other hand, living for the well-educated architect in many cases has become very difficult on account of unsuitable competition.

These unfavourable conditions have resulted in many countries, as in Hungary, in a movement to protect the architect's as well as the public's interest, and the interest of our art, in a similar way to what has been done in the case of solicitors, teachers, physicians, &c., i.e. to demand, at least to a certain degree, compulsory qualification for the practice of architecture. The last National Congress of

Hungarian Architects and Engineers have decided to bring forward a motion in favour of legal regulation of the titles and practices of engineers, mechanical engineers, and architects.

The Association of Hungarian Architects and Engineers were commissioned by the Congress to prepare a Bill providing for the compulsory qualification and practice in the different technical branches. This has been done. The Bill has been accepted by a majority of the Congress and transferred to the Government, and we hope will soon be brought before Parliament.

According to this Bill, the right of title and practice of engineers, mechanical engineers, and architects would be reserved to individuals of proper qualification, acquired by polytechnic or academic studies; appropriate considerations are prepared, which answer to the conditions of architecture as an art. Only qualified individuals could act as official experts, designers, and directors of buildings of importance.

To assure proper control, to obtain proper evidence, and to repress unsuitable practice, is proposed to be done by autonomic institutions—namely, by constituting as the *Technical Chamber* a legally constituted Union of Engineers, Mechanical Engineers, and Architects.

The Bill, with explanations and part of the discussion, has been published by our Association. It is in Hungarian, but I am sure our Association will answer with pleasure a request to have it translated, in whole or in part, in one of the languages of this Congress.

7. By A. NORTH (Tasmania).

I have been instructed by the Royal Victorian Institute of Architects, to which I belong, to support the proposals made for registration, and in doing so I cannot do better than read the instructions which have been given me: "The following *résumé* of the work of the R.V.I.A. is compiled by resolution of the Council of the Institute. I am directed to forward a copy to you, as a member of the Institute, in order that, when the respective subjects are dealt with in the Congress, you may be able to cite the action of the Institute in its endeavours (a) to place the members of the profession upon a legal status by registration, (b) to further the education of the architect by university and other teaching, and (c) to modernise the building regulations of our cities, in order that iron, steel, and other modern construction may be adopted.

"*Registration*.—The accompanying draft outline Bill was prepared in 1891 by the R.V.I.A. and the general body of practitioners. It was submitted to the Legislative Council in 1892, but was then rejected. It has not been re-introduced since. The need of registration, however, remains as great as ever. During the past fourteen years registration has been made compulsory in many of the professions, and before long it will be necessary for the Institute to move again in this direction, both in the interests of the public and the profession. The demand for registration is shared by all competent members of the profession, whether members of the R.V.I.A. or not.

"*Education*.—In addition to awarding prizes for the best work done yearly in the building construction and architectural classes at the Working Men's College, Melbourne, the Council arranges annually R.V.I.A. competitions for subjects in design, measured work, and sketching, and awards medals and substantial money prizes and certificates for the best work in each division. This year, however, the new regulations for Diploma of Architecture at the Melbourne University have been issued (a copy being forwarded to you herewith). The scheme was prepared by a joint committee of the Faculty of Engineering at the University and by the Council of the R.V.I.A. Mr. A. Henderson (one of our past Presidents) has been appointed lecturer on the subject, and Mr. Percy Oakden (also past President) represents the Institute upon the Faculty of Engineering for 1906. The work is thus directly in touch with the Institute.

"*Modern Methods of Construction*.—In order that modern methods of construction may be applicable to our larger cities, the Institute is (at the request of the Melbourne City Council) preparing a list of suggestions for improving the building by-laws of the city. Copies of the building regulations of the principal cities in Great Britain and America have been courteously forwarded on application for our guidance, and the first interim report was forwarded to the City Council last September. We ask that provision be made in the revised by-laws for the erection of iron and steel structures and for buildings composed wholly or in part of reinforced concrete. We further request that in the new regulations a clause be inserted whereby any method of construction in use in the cities referred to in an annexed schedule, although such construction be not provided for in the Melbourne Building Regulations, may, with the sanction of the official referees, be adopted in Melbourne. It will necessarily be some time before the amendment of the proposed regulations can be effected, as the work of revision is by no means an easy task.—Signed, JOHN NITTLE, Hon. Secretary."

Although we have failed as yet to obtain legislation in Australia on the subject of registration, we have been successful in obtaining a Chair of Architecture at the Melbourne University, which was an official recognition by the Government of architecture. So far as testimony is concerned, the Victorian Institute is absolutely unanimous in favour of registration.

Resolution of the Congress.

The subject was discussed by MM. Augustin Rey (France), George Hubbard, F.S.A., Robert Walker (Cork), Ellis Marsland, W. W. Thomas, C. A. Cowper (Melbourne), G. A. T. Middleton, D. Morgan (Cardiff), F. G. Green (Cape Colony).

On the motion of Mr. Ellis Marsland, seconded by Mr. W. W. Thomas (England), it was resolved:

That this Congress considers it desirable in the interests of the public of all nations, and of the profession of Architecture, that all practitioners should have a statutory qualification.

SUBJECT VI.—THE ARCHITECT-CRAFTSMAN: HOW FAR SHOULD THE ARCHITECT RECEIVE THE THEORETICAL AND PRACTICAL TRAINING OF A CRAFTSMAN?

Wednesday Morning, 18th July.—Grafton Galleries.

Chairmen: Herr Otto Wagner (Austria); R. S. Balfour (England).

Hon. Secretaries: H. O. Tarbolton (Scotland); Gustave Wickman (Sweden).

1. *Architecture and Craftsmanship.*

By REGINALD BLOMFIELD, R.A.

Synopsis.

Object.—To ascertain how far craftsmanship is necessary to an architect: (1) by tracing the development of the idea of the architect craftsman; (2) by consideration of the function of architecture.

The practice of the earlier Renaissance, specialisation of the architect. Draughtsman's designs at end of eighteenth century. Loss of tradition. Sham mediævalism. The last stand of classic. The great exhibition of 1851. The pre-Raphaelite brotherhood not a purely artistic movement. Their idea of reforming architecture by the study of nature. Mr. Ruskin. William Morris: his view of architecture, his passion for craftsmanship; his hatred of classic. The Arts and Crafts Society: the value of its work in regard to the minor arts: neglect of architecture. The pre-Raphaelites and their successors conceived of architecture not as the art of building, but as the ornamentation of buildings.

The Province of Architecture.—Buildings the only "nature" it can study. Its appeal by disciplined design, its analogy with music, space composition. The architectonic art. This view repudiated by Morris. The anarchy among the crafts; and l'Art Nouveau, the result of the withdrawal of the crafts from the control of architecture. Need of thorough training in technique for architectural students. Need for architects to resist the tendency to disregard architecture and absorb it in the crafts.

2. *The Relation of Modern Architecture to Craftsmanship.*

By W. R. LETHBRIDGE.

The practice of modern architectural design is based on custom. In some countries there seems to be a more general agreement than in others, and in the former there is a nearer approach to the existence of style. Beyond this, what are the possibilities by which modern architecture may enter on a course of development, and how can we attain to reality in building?

The styles of the past were shaped by a growing mastery of craftsmanship, and only this will produce art akin to the old, an art which is discovered rather than willed. The architect's store of forms is for the most part degraded memories of the discoveries made by ancient craftsmen. Whence is new energy in modern architecture to be derived? In part it may come from the investigations of science, but even so it will require a resourceful craftsmanship to deal with the new material.

At present the architectural profession is isolated from workmanship, and is thus imprisoned within a small sphere of ideas. Architects have aimed at bringing back the appearance of masterly craftsmanship, but this outward appearance has no vitalising force.

A closer contact with labour may mean at least three things. We need, first, to be in closer touch with

the executors of our buildings, and to be anxious to learn from them what they think is good work. In the second place, it may mean the acceptance by the scientifically trained directing architect of more help from independent workmen of a high order, painters, sculptors, metal-workers, modellers, and the like, while giving up the commonplaces of office-designed ornament. And, thirdly, it may mean the practical training of architects themselves. This idea is liable to two misconceptions; as if it were proposed that the architect engaged on important work should make his own mortar, or as if the claim might be satisfied by receiving lessons in enamelling or wood-carving. The crafts essential to an architect, of course, are masonry and carpentry, while they remain the principal factors in construction, and, so understood, craftsmanship should form the basis of architectural education. The student should cut stone, frame up wood, and handle bricks. Often, of course, he could not afford much time for this, but even a month's practice with materials and tools would be better than nothing.

A short course should form a part of the education of all students, but some would probably become much more interested in this side of things, and could follow it out further. Thus we might train architects of varying capacities for various requirements. It is the mistake of all systems to form men of one pattern. However desirable it may be to train some men to the highest degree of academical skill, these are best fitted to deal with the complicated problems of practice in a big city, while the humbler works of the country require equal devotion, but of a different kind. A basis of craftsmanship in architectural education should open out channels for diversities of gifts which may correspond with the diversities of requirement.

3. By FR. VAN GONBELSCHROY. (On behalf of the Central Society of Architecture of Belgium.)

[From the French.]

The importance of the mandate of the architect is great, because it expects from him extensive knowledge, without which the artist cannot consider himself to be at the height of his mission.

The great drawback from which the profession suffers is due to the fact that the title of "architect" may be assumed by persons who have neither obtained a diploma nor received a special education, and that this unjustifiable tolerance places in the hands of inexperienced persons an art which they will never be able to understand, and still less to practise.

All who desire to make serious study of architecture should be made to acquire the large amount of indispensable knowledge necessary to enable them to carry out a project.

The education should be more complete, because to the art of making ingenious plans the architect must add, not only the qualities required to have them carried out as a whole, but also those which the contractor and his sub-agents must possess.

The architect must be able to judge, as a real expert,

of the most minute details of the construction—in a word, he should possess the technical knowledge of all the trades which he employs, and this to the extent of being in a position to discover, and to have put right without hesitation, any part of the work badly done. And in the presence of this vast knowledge, which one should expect him to possess, there is no doubt that the architect would recover the prestige he always used to exercise in the building industry.

Besides, it must be stated that this perfect knowledge of the technical part of the crafts which we ask the architect to possess is not an innovation. In fact, many architects of the Middle Ages, and men of science, such as Galileo, Newton, Leibnitz, Stephenson, and others, were, at the same time, manual labourers. They knew how to manipulate matter in order to put their ideas into practice.

Of course it is not necessary that the technical knowledge of the architect should enable him to handle perfectly the tools of all the crafts—this would be useless—but it is necessary that his knowledge should enable him to carry out everything in accordance with the rules of art; and for this purpose it is necessary that he should himself, within the limits of possibility, have practised under the eye of an experienced master all the kinds of work which later on he will have to carry out in his projects.

Besides, this practical knowledge will enable him, with the aid of the superior education he has received, to contribute to a rational and practical improvement of the methods of execution adopted, and it will have not only a direct effect upon his authority, as we have already said, but also on the interests of the proprietors, of the substantial contractors, and of the workmen. For, as one would see disappear, for the honour of the profession, that species of so-called colleague, we should also witness the diminution of the credit of those not over-scrupulous contractors who not only injure the interests of their clients, but who frequently endanger the lives of many workmen.

Thus far is it that the architect—that is to say, the man who surveys buildings in the way of construction according to the rules of art, who in a word, makes the plans and estimates—this is how far the master of the work, as he was so properly called during the Middle Ages, must be an artisan.

To sum up, the architect must be able to work well himself in order to be able to command well.

This education, which would form part of the whole, would not require more than two years of supplementary studies, because it would only be a question of extending in a practical and convenient way a known programme.

The present programme followed for the studies of the architect could remain, with a certain revising, and there would have to be added to it that which is wanting for the training of the artisan.

In imitation of what is being done in Germany and in Austria, we should thus have academies where technical engineers for the building industry would be educated, with the advantage that these special studies would be imposed, not upon manual labourers, but upon individuals who would already have gone through the superior studies of architecture. With our neighbours these studies have for their aim to form technical engineers who have a perfect knowledge of the materials; the students learn there to distinguish between materials of good and of bad quality, and to render to themselves an account of their qualities, in order to be able to make a judicious choice. They study there the handling and the working of the tools used by the workman and by the contractor; in short, they carry out all the working operations which may occur, making use of all the special tools which have to be used in the finishing of any given work.

The complete school for architectural education which we should like to see created in Belgium would necessitate, as we have already said, the combination of the principles adopted in Germany and in Austria with artistic and scientific education, but basing nevertheless the technical teaching upon that of the English technical schools, which are essentially practical, and in which the oral lessons and the manual work are taught by the methods which develop in the pupil the spirit of investigation, determination, and initiative.

This summary does not allow us to enter into details of the programme of the lessons, but it cannot be denied that the result of the elements recommended for adoption in a programme of studies would be, after the lapse of a few years, the decisive element in the ever-growing competition among architects, because it would contribute to make disappear mere routine and empiricism, which put into a real inferiority a large number of our young colleagues.

Being given the superior and practical tendency of the studies at such a school, we are convinced that the young artists, the owners of a diploma for having finished their studies, would have capacities which would be appreciated by the artistic, scientific, and industrial world.

We indulge the hope that our work will contribute some elements to the solution of the very important question as to what extent the architect must be an artisan, and it will have shown the undeniable necessity of a complete education, which must always be kept at the level of progress, with a view to the improvement of the career of an architect and the recognition of its value, its rights, and its authority.

4. By OTTO WAGNER, Imperial and Royal Superintendent of Works; Professor of the Imperial and Royal Academy of the Plastic Arts. (On behalf of the Society of Austrian Architects.)

[From the German.]

Concerning this question we beg to make the following observations:

Reference has repeatedly been made in our previous communications to the scientific education of the architect, and stress has been laid on the fact that he has to learn such a vast amount of facts, and that, for the reasons given in the beginning, this learning cannot embrace everything. In going through the technical studies of the architect, what is required is a good grounding, which will enable him to acquire what is further needed in the course of his subsequent period of activity.

The actual work of the architect, and a number of artistic matters, such as the cultivation of the allied arts of painting and sculpture, the keeping pace with the professional literature, &c., cannot fail to induce him to be very economic with the time he is able to give to these occupations, and, moreover, he will have to reserve a very considerable part of his time to the supervision of the works to be carried out by him. It will therefore not be wrong to sustain that these matters can hardly receive much attention, from sheer lack of time. To this must be added the loss of time which is caused by the fact that the desire to create, and consequently the capacity to create, are faculties which the artist cannot command at all times.

A further accumulation of work by learning one or more trades (to learn them all is utterly out of the question) certainly exceeds that measure of time which the architect has at his disposal to devote to such work. If besides it is taken into consideration that handicraft of the kind in question sometimes requires considerable

physical strength, and may therefore be injurious to the steadiness and the fine touch of the hand, it is to be discountenanced to penetrate so far into the manual work of the architect's craftsmen. The knowledge how any given part of a building is to be made belongs to the sphere of practice, which the architect will acquire in the course of his career all the more readily because his innate gift of invention will serve him as an auxiliary.

The question under consideration, Number VI, can therefore be correctly answered in the sense that *the architect must know in a theoretical relation, and with regard to intuition, every trade and the qualities of the materials which he uses in his constructions, but that it is not necessary that he should become proficient in the manual skill belonging to the handicraft.*

5. By GASTON TRÉLAT (Paris).

[From the French.]

Summary.—The theoretical and practical education of artisans can certainly become an abundant source of development in art. But then it must be judiciously led. Otherwise it would have dangers which would soon show themselves in the work produced.

I wish to say at once that it ought to be consistent with the direction which the professional life takes. And this latter entails the general affinity with all the trades which contribute to the execution of the architect's works. From this results a real *theoretical and practical* education, which latter embodies itself in an extension of *conscientiousness* in the artist. Hence a vivacity of spirit which shows itself in the particular character of the elements conducing to the harmony of the *ensemble*, to which they remain subordinate—without which would be exceeded the taste and proportion taught us by a certain *philosophy* drawn from manners of arrangement to which matter is subject. As can be seen it is an education to which one consecrates one's life.

But for that there would be no reason to rely on an initiation from the commencement of life. Before all else, it must endeavour to show the disadvantages of making the different elements that the variety of trades represent dominate too much in a work. For this would expose one to a cause of incongruities which should be avoided in architectural conception and execution. Certain masters, whose memory is surrounded with the respect which is due to them for the harmony of their lives, and certain schools could supply evidence of this, if the thing needed to be supported by material proofs. But this is not the case.

Therefore, in order to prevent confusion in the mind, this education will be carried on by the fact of the career itself. For the architect it will result exclusively from the experience he will gain from all the trades contributing to the execution of his buildings.

Conclusion.—The education of an architect-artisan is sufficiently gained by the routine of a life practically absorbed in the applications of the art.

With regard to a theoretical and practical education at the commencement of the career, the advantages would in no way make up for the time spent; and the disadvantages of it would predominate.

6. By ROBERT LESAGE (Paris).

[From the French.]

SUMMARY OF THE QUESTION.

We thought that under the heading "The Architect-Craftsman" the organisers of the Congress proposed the

study of the question of "the professional training" of the architect, of the technical teaching completing the general teaching, and in particular that of the art of architecture.

Our colleague M. Poupinel will treat of the history of this question in the Congress, whilst in this report we shall study a programme of technical teaching of the various building trades.

We shall divide the report into two chapters:

1. The general programme.
2. In particular, the programme from the French point of view.

PART I.—THE GENERAL PROGRAMME.

What has been done in Europe.

1. By the State.
2. By private initiative.

In particular, what has been done in France.

For the building trades the State has organised workshops and professional schools in which workmen only are trained; it has not yet created any technical school for the training of *chiefs of enterprise, directors of work, contractors, and architects.*

In this direction private enterprise has already produced, enumerating them in chronological order:

The Trélat School.

The courses of lectures of the philotechnic, philomatic, polytechnic, and other associations.

The courses of lectures by M. de Baudot at the Trocadéro.

The courses of lectures of the Syndical Chambers.

The School of Public Works.

The school of construction of buildings.

The school of mutual teaching of arts.

THE CHARACTERISTIC FEATURES OF THESE SCHOOLS AND LECTURES: THEIR INSUFFICIENCY.

Programme of a School of Technical Teaching for Architects and Contractors.

Method of Teaching:

The lessons;

The exercises of application;

The practical works (workshops, laboratories, visits to edifices, factories, workshops, building yards).

The courses of lessons would include the study of the work from the point of view of its practical execution, and from the point of view of the settlement of accounts.

The teacher, in the analysis which he would make of the work, would treat separately: *The materials, the tools, the machines, the workmen, the organs.* He would deduce from the knowledge of the resources which the materials offer, from the means offered by the tools, some general principles which must be the guides of the builders for the logical and economic composition of the various parts. The teacher would also make the pupils conversant with the new industrial products; he would study the catalogues with them and discuss the value of the various brands.

The exercises of application.—To the technical lessons on construction would correspond some exercises in detail drawings calculated as if they had to be practically carried out; to the lessons of measurement and verification would correspond exercises of bookkeeping, making out estimates, memoranda, drawings to accompany memoranda, &c.

The practical work would consist in the handling of

the various tools, some manual work, testing of materials, the making-out of reports of all kinds, and even surveys. To this school a library and a museum would be annexed.

Relations between the Technical Schools and the Schools of Architecture.

Should technical teaching be given at the school of Architecture and at the Fine Art school, or should it be given in a school absolutely independent of these?

It is impossible to answer this question in a general manner. The organisation of a technical school for the crafts of the building trade, complementary to the schools of architecture, will of necessity work in unison with them.

To each special case will correspond a special and adequate solution.

The same answer must be made to this question: Is the technical teaching to precede, to accompany, or to follow the teaching of the art of architecture?

II.—THE PROGRAMME FROM THE FRENCH POINT OF VIEW.

Short Summary of the Official Teaching of Architecture in France.

1. L'Ecole des Beaux-Arts.
2. The regional Schools of Architecture.
3. The regional Schools of Fine Arts.

The characteristic Features of their Teaching, the Aims they Pursue, what they Neglect, and Why they Neglect it.

L'Ecole des Beaux-Arts is not a school of architecture, but a *special school of the Fine Arts* in which the art of architecture occupies a place similar to those held by the arts of painting, of sculpture and of engraving. The aim of the Ecole des Beaux-Arts is to train the mind of the architect, to put him towards art, and not to teach him a trade, or to prepare him for the exercise of his profession. It chooses its pupils by competition, and only admits men of superior intelligence and aptitude. The results which it has obtained force it to do this; it dominates all that is produced in architecture in France; it even makes its influence felt in other countries in the South of Europe, and especially in America. The technical instruction of the architect, the preparation of the practical architect for the part he is to act in society, does not come within its province.

The examinations and competitions in mathematics and in construction which it imposes on its students from the very beginning of their studies of art have no other motive than to eliminate at once those who would be absolutely unfit for the study of the sciences of the building art, and consequently to become true masters of work. But the technical knowledge the pupils must go elsewhere to acquire, and they must, above all, obtain it from experience in the building yards.

It is now beyond any doubt that this instruction left to the chance of experience should be given in a methodical manner, and give rise to a regular course of teaching: in this way our architects would undoubtedly be cooler and better prepared to defend the interests of which they are in charge.

This idea has been the cause of private undertakings which we have just mentioned; but in France the State has not yet done anything in this direction.

What can be done in France.

On the occasion of previous Congresses M. J. J. Pillet has already pointed out the programme for such a school:

for him the technical teaching would have to form the *secondary teaching* of architecture, the Ecole des Beaux-Arts having to give the *superior teaching* only accessible to a very select few.

At the time when this project was submitted it might have been easily put into practice by means of creating regional schools of architecture, absolutely independent, and the property of the provinces. This would have been a good piece of decentralisation.

In our days the circumstances are altered. By the initiative of M. J. Guadet, the French Government has just established in the provinces some regional schools which are branches of the Ecole des Beaux-Arts. The same courses of lessons, the same examinations, the same exercises, are made there at the same time as in Paris, where the work of the students is sent and judged by the ordinary jury of the Ecole des Beaux-Arts. These schools give the same diploma as the school in Paris.

In the presence of this expansion of the Ecole des Beaux-Arts there only appears to remain one solution to the problem of the technical teaching, viz. the creation, side by side with these schools, of *some schools of application for practical building*, the teaching in which would be absolutely specialised, and which, in connection with the Ecole des Beaux-Arts, would be in an absolutely analogous position to that occupied by the schools of application for artillery, the military engineers, the mines, the bridges and roads, &c., in connection with the Ecole Polytechnique.

Like these latter they would admit four categories of students:

1. The students of architecture, former pupils of the superior class of the Ecole des Beaux-Arts.
2. The day students admitted by way of competition.
3. The students from foreign countries.
4. The free students attending the classes.

The programme for their courses of lessons would be the one we have indicated just now. Each of them would be taught, under the supervision of an experienced architect with diploma, by assistant teachers from among contractors, artisans, and accountants.

The duration of the studies should not exceed two years. The lessons would be arranged in such a manner that the students could attend them while they are preparing for their final competition and for their diploma. The lessons could be given exclusively during the forenoon. The practical exercises would keep the students busy during three months of the year; for instance, from May to July.

To conclude, we beg to propose the following resolution:

This Congress, considering that the architect, the master of the works, having under his immediate direction workmen and artisans of the most varied bodies of the State, and utilising the services of the most varied industries, has no means of acquiring in each of these trades and in each of these industries the complete knowledge of a specialist; considering that there exist already in the majority of European countries training schools for artisans, schools for practical application and laboratories for engineer, where specialists are trained, expresses the desire that there should be created *especially for the architects* and for the *general contractors* schools in which, in the limited space of two years, they could acquire in a general but exact manner the technical part of the various trades and industries of the building trade, without claiming to practise these trades and industries. It also expresses the wish that between these schools international and continuous relations may be established.

7. By J. M. POUPINEL.

[Extract, from the French.]

To avoid waste of time I will restrict myself to telling you what conclusions, in my opinion, are to be drawn from the work of our predecessors.

In art, as well as in science, we shall never be able to come to the end of our experience. So many artistic, scientific, and practical problems has the architect to solve that several lives would be necessary. Madame de Sévigné has written:—"I always say that if I could only live for two hundred years I should become the most admirable person in the world."

It is time, we think, that an architect student should become deeply imbued with all the necessary sciences and put them in practice. It may also be stated that, in spite of the progress of the sciences of medicine and hygiene, present and future generations will have no such longevity, and we should perhaps do well to limit our ambition and, in the interest of our young colleagues and successors, to restrict our demand and to formulate it thus without losing ourselves in details or complicated programmes: "Let the architect receive practical summary teaching, allowing him to make the best use of the human forces, of the material resources placed at his disposal by nature and labour."

Resolution of the Congress.

The discussion was contributed to by Dr. Joseph Cuypers (Amsterdam), Mr. Maurice B. Adams, Professor V. Nagy (Budapest), Professor Lethaby, Messrs. Reginald Blomfield, A.R.A., C. Walker (Boston, U.S.A.), H. P. G. Maule, and the motion appended to M. Robert Lesage's Paper (p. li), having with his consent been modified by Professor Nagy, was seconded by Dr. Cuypers, and carried unanimously as follows:

That this Congress, considering that the architect, the master of the works, having under his immediate direction workmen and artisans of the most varied bodies of the State, and utilising the services of the most varied industries, has no means of acquiring in each of these trades and in each of these industries the complete knowledge of a specialist, expresses the desire that the opportunity should be given to architectural students to acquire in a general but exact manner the technical part of the various trades and industries of the building trades without claiming to practise these trades and industries. It also expresses the wish that between these schools international and continuous relations may be established.

SUBJECT VII.—THE PLANNING AND LAYING-OUT OF STREETS AND OPEN SPACES.

Wednesday Evening, 18th July.—Grafton Galleries.

Chairmen: Sir Wm. Emerson (England) and M. Ch. Buls (Belgium).

Hon. Secretary: Mr. Perkins Pick (England).

1. By CH. BULS, Hon. President of the Société Centrale d'Architecture de Belgique. (On behalf of the Société Centrale d'Architecture de Belgique.)

[From the French.]

If it is desired to lay down the rules to be followed for the creation of streets and squares, the following three hypotheses must be considered:—

First, an entirely new town to be founded. This is a rare occurrence in Europe; an instance of it is Zeebrugge in Belgium.

Secondly, a quarter of an old town to be transformed into a modern quarter. In this case it is necessary to leave untouched the picturesque aspect of the quarter, to preserve the historical monuments, while endeavouring at the same time to satisfy modern requirements.

Thirdly, a new suburb to add to an old town. Establish the plan of the principal directions of circulation, adapt it to the topography of the place, determine the character of the quarter according to its destination: i.e. whether to be of a commercial, industrial, administrative, popular, university, middle-class or aristocratic character.

Servitudes to be established to preserve to it the character it is intended to have. Expropriation by zones or participation of the owners of the land in the management expenses.

FORMS OF THE STREETS.—Straight or almost straight principal arteries; sinuous secondary streets. The straight streets must not be too long; after every thousand metres they must be deviated or end in a monument.

The squares arranged in these streets must not be

circular, but oval. They can besides be varied by not giving a uniform width to the whole street.

INTERSECTION OF THE STREETS.—Avoid converging the circulation to a single point; it must, on the contrary, be distributed over the whole town.

Cross-shaped intersections should be avoided.

OPEN SPACES.—In ancient times the public squares were the forum as the political centre, and the market-place as the commercial centre. In the North, in the Middle Ages, there was the open space in front of the church and the large market place in front of the town-hall.

1. *The squares for circulation.*—The star-shaped squares are to be condemned: they lead to congestion in the circulation and form a too cut-up picture.

The streets must end in the corners of the squares.

2. *Markets.*—The centre of the market-place must be free; the streets leading to it must not be numerous, and must end in the shape of turbine paddles.

3. *Garages.*—Squares outside the railway stations: there the circulation must be divided by open spaces, fountains, and statues. Towards the town there should be a monumental entrance. Within the town spaces must be reserved for cab-stands.

4. *Ornamental Squares.*—Squares planted with trees. They can be made of any shape.

5. *Monumental Squares.*—Squares created to produce an artistic effect.

(a) *Proportions of the squares.*—The height of the houses should be in harmonic proportion with the dimensions of the squares. Rules established by M. H. Martens.

(b) *Shape of the squares.*—Rectangular ones in the proportion of 1.3, trapezoidal and triangular ones. Circu-

lar and octagonal shapes to be condemned. Oval shape admissible.

(c) Framing of the squares to be recommended; dissimulate their openings by grates, arcades, &c. Streets opening into them in turbine-paddle shapes.

(d) Grouping of the squares produces a picturesque effect. These squares may surround an edifice.

(e) Decoration of squares. Sometimes symmetrical, but as a rule the absence of symmetry is preferable. It is better not to place the statues and fountains in the centre of the square.

(f) Lovelling of the squares. The concave surface is to be preferred for aesthetic and practical reasons.

Conclusions.

The principles which we have just exposed are the result of the research of practical means which can make a modern town comfortable and hygienic, and impart to it a beauty which renders a sojourn in it pleasant.

A town must not only be a commercial store and an industrial factory, but also a home for human beings.

Since the towns are no longer formed by the slow increase of centuries, they have lost their picturesque charm and their national character.

To the unconscious work of the builder of ancient times must be substituted the conscious work of the modern builder. The mission of our town architects must therefore be to adorn the towns with a new beauty, the elements of which will be furnished by the wants of a heavy traffic, of a healthy life, by aesthetic principles, derived from the study of the laws of artistic enjoyment.

Town builders, trustees, and architects must be inspired by the fine verse of Terence:

Homo sum, et humani nilul a me alienum puto!
(I am a man, and no human feeling is indifferent to me!)

2. Summary of Report by M. EUGÈNE HENARD, Architecte diplômé par le Gouvernement, Paris.

[From the French.]

Definition of the various kinds of locomotion in the large towns. Household circulation, professional circulation, cheap circulation, general circulation, holiday circulation, and exceptional popular circulation. Corresponding ways of circulation and width of the streets. Necessity of increasing their width on behalf of motorism. General distribution of the net of public thoroughfares. Geometrical distribution of the new towns. Rectangular system, radiary system, mixed system. Insufficiency of these systems. Search for a principle for laying down the net. Comparative study and plans reduced to the same scale of the four large capitals, London, Berlin, Moscow, and Paris.

(Plate I.) Description of the plan of Berlin. Theoretical idea of this plan (Plate II.). Description and theoretical idea of the plan of London. Description and theoretical idea of the plan of Moscow. New notion about the perimeter of radiation drawn from the comparison of these plans. Description and theoretical scheme of the plan of Paris. Insufficiency of the radiating streets of Paris. Idea of what a modern town must be. Advantages which men must find in the large towns. General distribution of a large town. Centre of activity, centre of business. Periphery of dwelling-houses. Consequences from the point of view of the ways of circulation. Circulatory net analogous to that of a living organism. Necessity of directing the streets towards a closed uniting centre or perimeter of radiation, making the central nucleus less congested. Abnormal situation of the present public streets in the large European towns in

consequence of their business development. Necessity for widening the too narrow streets of the central nucleus. Presence of the most ancient historical monuments in this centre. The duty of leaving them untouched. Inconvenience of tracing in a straight line the new streets, if it is too strictly adhered to. Usefulness and beauty of spacious or winding streets.

The open spaces, parks, or gardens. Respiratory organs of the large towns. Objections of the speculators. Usefulness of parks for the education of children. Aesthetic influence of the parks and gardens. Comparative studies of the parks and gardens of the four large cities, London, Berlin, Moscow, and Paris. Total surface of the agglomeration built over, population and surface of the interior and exterior parks in those four large cities. Usefulness of the outside parks. Necessity of the interior parks. Comparative plans of the interior parks (Plate III.). Difficulty of the comparison. Selection of a common surface of comparison. Surfaces of the parks and open spaces of each of those large towns compared with their area. Superiority of London. Diminution of the open spaces in Paris. Reason for this diminution. Measures to be taken by the municipalities to remedy it. Proportion to be observed between the open spaces and the areas covered with buildings. Good and bad distribution of the parks and gardens. Idea of the garden cities. Advantages and drawbacks of this system. Means of rendering the clusters of houses less compact. New type of boulevards, called *à redans*. Formula of the boulevard and its description. Plan and perspective of a *boulevard à redans* (Plates IV. and V.). Its advantages from the hygienic point of view of the houses. Comparative plan of a fragment of a *boulevard à redans*, and of part of an ordinary boulevard from the point of view of the utilisation of the land (Plate VI.).

Application of the foregoing theories to the study of the transformation of Paris. Present defects of the plan of Paris. Project of the proposed distribution (Plate VII.) and central nucleus. The new system of the eighteen radiating streets. New streets and old streets utilised. Creation of new parks. Distribution of these parks. The twelve peripheric parks put into communication with each other by the grand circle of the *boulevard à redans*. Estimate of cost. Delay necessary for its execution.

Conclusion.

Usefulness of the putting together and comparing the graphic documents of the large towns. Proposal by Sir Edwin Cornwall to assemble a Congress of the capitals. The part which the architects could play in this Congress. Proposition to constitute by a uniform method, and with plans reduced to the same scale, the technical documents of all the large cities.

3. By B. POLLES Y VIVÓ, J. MAJÓ Y RIBÓS, M. BERTHARD DE QUINTANA.

[From the French.]

In laying out open spaces account should be taken of various circumstances, those especially which are attendant on the climate of the locality, though varying according to latitude, altitude, direction of dominant winds, and the greater or less distance from the sea and great rivers, the position of neighbouring mountains, frequency of rains, nature of soil, &c.

Of all these circumstances, those which have a preponderating influence are the direction of the dominant winds and the latitude.

What evidently demonstrates the importance of the

direction of the dominant winds is the position of edifices included in the category of insanitary buildings, which, on account of the many emanations affecting the atmosphere, should not be so situated that the currents of air may carry these insanitary emanations into the open spaces of a city, thus converting into a focus of infection the air which our dwellings receive from outside.

In consequence of this, one ought to study conscientiously the situation of a cemetery, a crematorium, an establishment for the filtration of infected water coming from a system of sewers, a hospital, a lazaretto, certain industries, &c.

With regard to the latitude, or distance from the equator, and setting aside the differences of temperature, consequent on the greater or less distance from the poles, and following the geographical points which are under consideration, one of the most important factors in the solution of the problem, and one on which we ought to fix our attention, is the consideration of the angle formed by the solar rays with the plane of the horizon of each locality, an angle which diminishes as the latitude increases.

According to the reports of the International Congresses of Tuberculosis, and of Salubrity and Hygiene, held recently at Paris, it cannot be doubted that one of the essential points to be secured is to place the dwelling in hygienic conditions, and that its façade should be so exposed as to receive the rays of the sun and pure air for as long a time as possible. To obtain this result it is obvious that we ought to orientate the streets, determine their width, and fix the height of houses, so that the access of the sun's rays should be assured.

As our limited scope does not permit us to trace geographically the course of the solar rays for each of the latitudes corresponding to each degree (a method which would give a precise idea of the matter), it will be enough for us to consider the distinctive latitudes corresponding to the equator, latitude 0° ; the tropics, $23^{\circ} 27'$; an intermediary point, for instance Madrid, 40° ; the polar circles $66^{\circ} 33'$; the poles 90° ; to demonstrate clearly that the maximum angles which the solar ray corresponding to twelve o'clock, that is to say, the hour at which the sun passes over the meridian of the locality, form with the plane of the horizon at the time of the summer solstice, the equinoxes, and the winter solstice are the following for the said latitudes:

	Latitude	Summer Solstice	Equinoxes	Winter Solstice
Equator	$0^{\circ} 0'$	$113^{\circ} 27'$	$90^{\circ} 0'$	$66^{\circ} 33'$
Tropics	$23^{\circ} 27'$	$90^{\circ} 0'$	$66^{\circ} 33'$	$41^{\circ} 33'$
Madrid	$40^{\circ} 0'$	$73^{\circ} 27'$	$50^{\circ} 0'$	$23^{\circ} 33'$
Polar Circle	$66^{\circ} 33'$	$46^{\circ} 51'$	$23^{\circ} 27'$	$0^{\circ} 0'$
Poles	$90^{\circ} 0'$	$23^{\circ} 27'$	$0^{\circ} 0'$	$23^{\circ} 27'$

From the preceding it is evident that the various open spaces for each city, streets, squares, promenades, &c., and those by analogy reserved as courtyards to facilitate the access of air and light to houses, ought to increase in breadth as the latitude of the locality increases, whilst the heights of the houses ought to lessen as the latitude increases; in other terms, to avoid one façade casting a shadow upon another, the breadth of the streets must increase proportionately with the latitude of the locality, and the heights of the houses must lessen in the same proportion.

To give to the subject we have just sketched all the development that it deserves would take a volume filled with scientific and learned explanations, and as these notes are intended for an audience composed of experts

we would like to avoid falling into this error, and we will conclude our remarks on the portion of the hygienic problem intimately allied with the title of the theme we are discussing, with the following conclusions:

1. That the means of communication in cities should be laid out so that in no case should they serve as a canal to conduct the impurities coming from unhealthy industries, which necessarily exist in all centres of population; that is to say, that strict care must be taken that the situation of these buildings be fixed in such a way that the dominating winds can never carry into inhabited localities the unhealthy emanations from them.
2. That the dimensions of open spaces in a city should be subordinate to the density of the population as well as to the latitude; in other words, the more populous a city the greater should be the area of its open spaces; a condition which can be obtained through the means of communication and the courtyards belonging to houses. Considering besides that the sun is essentially the purifying element, in order to obtain its presence for the longest time possible in the fronts of buildings it is necessary to increase the area of open spaces and to diminish the height of constructions as the latitude of a city increases.

4. By Dr. J. STÖRMER, Berlin.

[From the German.]

I. PLANNING OF STREETS.

Traffic.

The direction and width of streets depend on the claims of the traffic to be accommodated. Traffic must everywhere and in every direction find a clear view and an unimpeded path. In main thoroughfares the width desirable may be 50 metres or more; in by-streets, where the traffic is solely for the service of the residents, the width may be reduced to 8 metres. All intermediate widths depend on the circumstances of each case.

The gradients of streets should be as flat as possible. In level districts gradients of more than 1 in 70 should be avoided as far as may be, because they interfere with the asphaltting of the road surface. In hilly districts gradients up to 1 in 20 are permissible in the case of main thoroughfares, and up to 1 in 10 in the case of side-streets. Where steeper inclines have to be dealt with stairs or footways should be provided. The latter should be employed more frequently than is at present the case on mountain slopes and for diagonal crossings of long blocks.

Health.

For hygienic reasons, streets running due east and west should, where possible, be avoided, because the houses on the south side during the greater part of the year do not receive direct sunshine. The width of a street should be at least equal to the height of the houses in it. Broad streets should be planted with rows of trees and garden plots. Forecourts in front of the houses favour the access of light and air, and often allow a reduction of the width of the roadway. Very wide and bare streets are to be avoided, owing to dust clouds and lack of shade. The same remark applies to long straight streets, especially when they lie parallel to the direction of prevailing winds.

Beauty.

On purely aesthetic grounds there is as much to be said for straight streets as for crooked ones, and for a regular as for an irregular building line. In hilly

districts curved streets facilitate traffic and the laying-out of sites. In level districts the adoption of straight or crooked, regular or irregular lines depends both on practical considerations and also on the artistic intentions of the designer. Straight streets of great length should be avoided; the remedy is to curve or change the direction, also transposition of the direction or building lines. Transpositions are, however, only permissible in so far as they do not interfere with a clear view of the traffic. Convex changes of gradient are to be avoided in straight streets as far as possible. Concave levelling is to be preferred. Unavoidable stopping-points ought to be treated artistically as terminal points. Every street ought as far as practicable to be planned individually. A change of width in different parts of the same street may serve to add to its beauty. Self-contained street pictures are everywhere to be aimed at.

II. PLANNING OF OPEN SPACES.

Traffic.

Open spaces are required for dealing with streams of traffic at points where streets converge, at railway stations, bridges, city gates, &c. For practical reasons it is desirable that the various lines of traffic should not intersect one another at one point. Spaces devoted to traffic lack, as a rule, one quality of artistic importance—viz. the setting of a proper frame. They can, nevertheless, be made to present a pleasing appearance. The lack of a suitable frame may be to some extent compensated by so arranging the lines of the streets that the eye travels over the open space and rests on a boundary wall. Useless traffic areas resulting from the unnecessary meeting of streets are to be avoided.

Market-places should be near to some main thoroughfare, but their main area should not be open to vehicular traffic.

A considerable number of open spaces are desirable in the interests of fresh air. They should occupy at least one-tenth of the total area of a town. Spaces planted with trees and flowers, such as *gardens* and *recreation grounds*, are important to health, as are also public parks and promenades.

Beauty.

The chief artistic quality of open spaces lies in their being as far as possible enclosed in a proper setting. This applies to market-places and garden, but especially to spaces of a purely architectural character, i.e. spaces intended as sites for monumental buildings. The preferable position for these buildings is at the side of the open space rather than in the centre. In this latter position the necessity of a framing for the remaining portions of the space holds good. Porticoes and porches, which can be carried out into the street openings, help to close in the frame. Errors in scale, especially unduly large open areas, are to be avoided. Convexity of the open space is inadmissible. Concavity is preferable. Each open space should, as far as practicable, be laid out individually.

Combinations of spaces are subject to various requirements, according to the purpose for which each is intended, e.g. whether it be for purposes of traffic or as a site for monumental buildings. The *grouping* of several separate spaces can be made to produce fine effects from an artistic point of view.

III. PLANNING OF CITIES.

Historical Development.

It is instructive to pass in review—

The formal cities of ancient Greece.

The formal and informal cities of the Romans.

The irregular cities of the earlier Middle Ages.

The regularly laid out towns of the later Middle Ages, of the Renaissance, and of the Baroque period.

The systematically designed cities of America.

The improvements in towns carried out during the nineteenth century, for the most part geometrical in character; and, finally,

Modern ideals.

Traffic, Hygiene, Beauty.

Modern ideals are in the main based on the principles given above for the design of streets and spaces. We cannot simply imitate the cities of an earlier age, since the requirements of the traffic and of hygiene have altered. That the ground plan of a city should be clean and orderly is of importance. The task of the artist lies in a perfect adaptation to use, combined with beauty of form. In other words, the arrangement of the open-air space shall satisfy aesthetic demands, while at the same time it must provide, as completely as possible, for convenience of locomotion and health.

Economic and Social Requirements.

In addition to the claims of traffic, health, and beauty, economic and social considerations require attention. The streets and blocks of buildings must, in their character and dimensions, conform to the economic and architectural necessities of the inhabitants. Broad main thoroughfares must be provided for the bulk of the traffic, narrow side-streets of private houses serve to divide the area to be built on into separate blocks. The various parts of the city ought, even in the first rough plan, to be divided up in accordance with the purposes they are intended to serve—viz. into rows of houses or detached and semi-detached buildings; into tenements or private houses; dwellings for the upper, middle, or working classes; shops and retail or wholesale manufactories, &c. Attention should be paid to their relative position in regard to the centre of the town, the surrounding country, the railways, and the harbour.

As in the case of isolated thoroughfares and open spaces, so too in the case of whole quarters of the city individual character should be aimed at.

Care of Monuments.

Ancient monuments of all kinds, as well as fine existing streets and views, ought not only to be preserved, but should be taken advantage of in order to secure a characteristic development of the city on artistic lines.

(Illustrated by forty lantern slides.)

5. By GASTON TRÉLAT (Paris).

[From the French.]

Summary.—Streets are never wide enough to allow the traffic in the roadway to develop without leading to obstructions. These latter occasion loss of time inconsistent with the rapidity which the means of locomotion tend to ensure; again, they lead to a confusion in the streets which is not in harmony with objective beauty. The leading fact of the day is a more and more accentuated rapidity of movement from place to place, thanks to which the former suburbs of capitals or towns are joined, or can immediately be joined, to the centres of the agglomerations. Hence the possibility of assimilating these new localities to the old districts where the urban employments are centralised. Thither, then, should be transferred the dwellings which up to the present have crowded the centre of the towns, where they tend to spread transmissible and preventable diseases.

The enlarged agglomerations would gain considerably in healthiness and brightness, in contrast with these faulty concentrations of dwellings, cramped and one above the other in comparatively restricted spaces.

Uninhabited areas could take the form of parks, squares, gardens, avenues planted with trees; and even private squares could be made on pieces of ground large enough, so that the buildings would line the public roads. And all this should be planned and settled before it is too late. This necessary preliminary work should be carried out under the aegis of the municipal authorities independently of the exigencies of execution, which should be effected according to financial possibilities and intentions. Nothing should be executed which is not in accordance with general harmony, of which it is expedient at once to have some idea, in order to ensure the realities, such as present knowledge bids us consider them.

This would therefore be a technical focussing of the progress that science faces in our days. From this would follow later the prescribed realisations in accordance with the views that our intellectual life may well admit of.

It is necessary to get away from the antiquated methods which up to now have served as the bases of the regulations of the highway authorities. In order to do this it would be expedient to appeal to competent meditations and deliberations, all having as their primordial object the health and well-being of the community. For it is in the exclusive interest of the community that such regulations ought to be made.

Conclusion.—Consequently there is reason to express the desire that for all important agglomerations plans should be studied without delay. They would have to take into account the conditions inspired by science and which interest health, such as rapidity of movement from place to place.

These plans would therefore require a focussing of the technical solutions to be drawn from science. They would be carried out according to local requirements and budgetary possibilities. But nothing would be done which was not in accordance with an *ideal* in keeping with the knowledge of the age.

6. *The Planning of the Residential Districts of Towns.*

By RAYMOND UNWIN.

While towns in England are growing as rapidly as those of other countries we have not studied the question of town development, as many of the other countries have. In Germany, for example, there is a large literature and at least one good periodical devoted to the subject. German municipalities have extensive powers and are in the habit of making plans to regulate the development of their towns. The English haphazard system of allowing towns to grow has only to be compared with this to be condemned. It is necessary for our municipalities to secure additional powers; probably the best way would be to begin by forming committees in each town to watch over and criticise town development from the aesthetic point of view, and these committees should work for the appointment by each municipality of a professional expert whose special duty it should be to examine and criticise all development from the point of view of its effect on the appearance of the town.

It is important for us to study what is being done in other countries, but we must not necessarily accept the conclusions they have arrived at as indicating the best methods for our own development. This is eminently

work for architects, who alone have received the necessary practical and artistic training.

It is the regulation of the vast growth of residential districts around our towns which is most required in this country. Valuable suggestions may be obtained quite as much from old English villages and towns as from the ancient Continental towns which the school of Camillo Sitte have taken so much as their model.

Both alike suggest the great importance of defining and limiting suburban areas. Old towns were often defined by their walls with beautiful effect. We need to replace with some more comely girdle the ragged edges and rubbish heaps which surround our modern suburbs; belts of park land, meadow, wood or orchard, often of quite narrow width, might be used with good effect.

In suburban areas the larger buildings will be few, but should be grouped so as to produce some enhanced effect and some definite centre for the life, as well as for the plan, of the suburb or district. The judicious use of planting may help to link together buildings in centres where there may not be enough fine buildings to make an adequately large enclosed place. The growing desire for greater space and more openness of outlook is an important and difficult element in our problem.

Before attempting to lay out a new area the site must be very carefully studied, a contour plan must be made, and a survey of trees and many other features of interest. Even well-grown hedgerows may sometimes be helpful; anything that will break the naked newness of a suburban area should be preserved. The plans should be thought out on the ground and committed to paper afterwards. It is impossible to study too thoroughly a site and its conditions; the proper directions for the main roads, the various centres, factory areas, &c., should all be settled on the site. A symmetry which will look nice on the drawings is of no value; but definiteness of figure in the main framework formed by the chief roads of a town or district is certainly valuable to enable people easily to find their way about. The whole of the plan should be based on definite reasons rather than abstract rules, and one cannot be too willing to consider suggestions from the site. Rules cannot be laid down in favour of straight or curved roads; each form has its beauty and use; the mere aimless meandering road will be quite as monotonous as the straight road. The contour of the ground or existing features having curved lines springing from natural causes may suggest very beautiful curved roads, but straight roads opening up a beautiful view, or affording fine avenue effects, may be equally satisfactory. Each road should be given some distinctive character, which may be enhanced by planting it with a special kind of tree. Greater variety than at present should be allowed in the width of the roads, in their construction and decoration, according to the purposes they will serve; by-laws need revising in this respect. Great care is needed in decorating roads with trees or gardening; everything must be kept very simple and broad in effect. The dignity of many fine streets and parks in Continental towns has been destroyed by the introduction of wriggling lines, of beds of variegated foliage, and such like.

The best direction for roads to take for residential purposes depends so entirely on the designing of the houses that no rule can be laid down. Roads running east and west may give a south aspect for all the houses provided only that the superstition that a house must have a tidy front to the road and an untidy back away from it can be exploded, and houses for the south side of the road be designed with their living-rooms facing from the road and their so-called backs made tidy and presentable to face the road. The advantage of roads running north and south, or thereabouts, is that both

sides of the houses get an equal amount of sunshine. An important improvement required in suburban districts is the better grouping and arrangement of the houses. Endless repetition of detached or semi-detached buildings becomes quite as monotonous as the endless rows of houses. Valuable suggestions may be obtained from our old village greens, cathedral closes, and college quadrangles. Even the throwing together of a few front gardens may help matters, but where smaller houses can be built in groups, and the groups be designed as a whole, and where such groups of houses can be arranged on two or three sides of an open garden or green, even where they can be set back from the road at varying distances, not only may variety and beauty be given to the road, but greater openness of outlook may be provided for the houses, and very often some small distant view may be given.

Variety of effect in the streets is very desirable, but it must never be forgotten that mere variety is not in itself necessarily pleasant, in fact is seldom really satis-

factory unless it is variety within some enclosing unity. For the town-planner it is most necessary that he should understand wherein consists what we call natural beauty; and while he should seek every opportunity that the site may afford of pleasant natural beauty and the interest and picturesqueness of happy accident he must never forget that he cannot design happy accident or natural beauty.

The reading and illustration of the Papers read occupied nearly the whole of the sitting, and with the exception of some brief remarks by M. Ch. Bula (Belgium), Mr. Albert Kelsey (Philadelphia, U.S.A.), and Mr. Max Clarke, there was no discussion. Mr. Frank Miles Day (Philadelphia, U.S.A.), before the meeting closed, showed a number of slides illustrating plans of various American cities, and briefly explained them.

No resolution was proposed.

SUBJECT VIII.—TO WHAT EXTENT AND IN WHAT SENSE SHOULD THE ARCHITECT HAVE CONTROL OVER OTHER ARTISTS OR CRAFTSMEN IN THE COMPLETION OF A NATIONAL OR PUBLIC BUILDING?

Thursday, 19th July.—Institute Meeting-Room.

Chairmen: Mr. R. Böker (Russia); Mr. Leonard Stokes (England).

Hon. Secretaries: Mr. E. Kirby (Liverpool); Mr. G. Oakley Totten, jun. (United States).

1. By Sir WILLIAM RICHMOND, K.C.B., R.A.

A simple question is asked upon a very complicated subject. Complicated because we live in times when artists come much more rarely into touch than formerly. Cities are bigger, life is less simple, distractions of various kinds are ever hindering any artistic intercourse. Above all the State does not take much account of Art. Education is in all hands, superficially. Hundreds of clever young fellows are taught the rudiments. How few of these gain permanent employment, or even make a living. Yet, notwithstanding, the Institute is always broadening its ground; the Royal Academy seeks to be more comprehensive. The Art Workers' Guild has accomplished much, and the "Arts and Crafts" have succeeded in gaining the interest of a section of the public. Against the cold attitude of the Government towards Art may be set a growingly democratic bearing of artists to artists. Architecture, sculpture, and painting are getting only too slowly more closely into touch, and the professor of each separate art is gaining knowledge from the specialist. And yet there are great difficulties. The great mother of Art, Architecture, is still shy of her children. For this there must be a reason. May it not be that though increased liberation from "Styles" finds a less pedantic outlook, still a really modern expression in architecture has not entirely overcome them? The rapidly increasing necessities of modern life, the almost innumerable and new problems which the architect has to solve, render him more or less an experimentalist. And exactly, though less forcibly, an analogous uncertainty surrounds the inspiration of the sculptor and the painter.

Modern costume does not lend itself to sculpturesque or pictorial art as monumental art, and only monumental design can find fellowship with architecture; so that we are more or less in a dilemma, all of us. It would

seem a commonplace to say that a classic building should be embellished with classic stories told either in the round in relief or by painting of the same character, and the same applies to Gothic buildings. And yet being done the average even instructed citizen is left cold. He is aware of a certain anachronism; and though he may admire, his admiration is without sympathy, and if he does not state it there is lurking in his mind some such sentence as this: "Is there nothing good enough, picturesque enough, grand enough, in modern life to create a style?" This leads one to the conclusion that architecture must make the move; sculpture and painting will follow. The divorce of the three arts has been destructive to the highest art, which contains them all three. It is impossible to deny that the Royal Academy is *per se* an academy of painting; it has fallen to be so. The architectural room there collects but little of the public attention. Why? The average public is neither interested in nor does it know anything about that noble art which is beyond its power of comprehension, because it appeals to the most abstract of our senses, beauty of line and of proportion. Architecture is an art which appeals last, not first, to the average individual. Painting appeals first, first as portraiture, secondly as anecdote; that painting which is the highest, which is abstract, and hence in allegiance with architecture, appeals scarcely at all. The same may be said of sculpture, though in a less degree than of painting. Regard for the abstract beauty of form is very rare in England; thus architecture, sculpture, and the higher forms of decorative painting have no market; they are not either of them, as it were, dealers' wares; their value is intrinsic, not fluctuating, and it cannot be grouped in the sale-room: therefore neither architecture, sculpture, nor decorative painting is within the market. So much the better! Doubtless a combination of serious architects, sculptors, and painters

would be quite invaluable, a society, say, comprising a small number of each section of the arts, perhaps six architects, six sculptors, and six painters.

The Institute is the very body to create this new departure from specialism and all its narrowing effects.

In my opinion no amount of "Papers," either for discussion at a Congress or for stimulating a pleasant chat at one of the evenings at the Institute, will ever lead further than that evening's passing instruction and pleasant pastime. There are many men capable of writing able articles, convincing also for the time being, but which very soon are found in that limbo called forgetfulness. We must get practically into touch; there must be no priority. Our several professions are full of difficulties, which would be appreciated as soon as we could get to work together. The architect can learn much from the painter and sculptor, and *vice versa*. It is "touch" that is needed, not "shyness," and real "touch" can only occur when practice follows precept in the initial stages of a great work. It is of little use for an architect to tell the sculptor or the painter, Here I want a statue, there a relief, here a wall painting, &c. At the very initial the three should work together. There is nothing harder than the experience of an artist who is called to decorate a building with painting or sculpture which is in a sense complete without either. Surely the structure must be designed to receive. A niche is nothing without its statue, a sentry-box is a silly thing without its sentry, just as a framed panel seems to ask for what it is framing, for something precious—marble, mosaic, or colour. Incomplete is the monument to the Duke of Wellington in St. Paul's; it looks like a pedestal without a reason; it fails because it has no culmination. There are plenty of arches, plinths, pedestals scattered all over London which present the same absence in appearance of any utility. If there is no money forthcoming to complete a scheme why ask us to imagine what all these pedestals, plinths, and arches mean? They mean nothing, they are inadequate and senseless! Surely we can imagine a style of architecture the growth of necessity which shall ask for no adornment save that of beauty of line and dignity of proportion. That would be one thing, perfectly complete and quite comprehensive and entirely satisfactory as far as it went. But when we see forms which are not structural placed for purposes which they do not fulfil are we not puzzled and dissatisfied? We are presented with shams. Now, if the architect, starting his design, says, I am going to design for sculpture and painting, and calls in the best sculptor and painter to consult with him, his hands will be strengthened: knowing how much money he has to spend, he will be able to portion out the various costs of the various parts of his scheme.

My main contention is that, with a view to closer touch between the architect, sculptor, and painter, a committee, such as I have indicated, might be appointed by the Institute. That committee might in time become an advisory body to the Government and the London County Council, which both need assistance, not only in common sense, but good taste also, in all that applies to Art.

2. By H. P. Nèstor, Membre de l'Institut de France

[From the French.]

The study submitted to you touches one of the most delicate points of our art: it has for its subject "The Professional Relations between the Architect and the Painters and Sculptors his Collaborators."

In all the bygone periods of art the same idea has united all artists. Painters, architects, and sculptors had the same ideal, and the master of the work was sure

to find in his collaborators a decorative interpretation in perfect harmony of feeling with his own composition.

Among the Egyptians the hieratic sculptures form part of the architecture itself, and the finest paintings in the tombs of the Theban kings indicate that from the pictorial decorative point of view as well as from the sculptorial the unity was perfect.

The beautiful monuments of Greece, where sculpture played an important part, sometimes even a predominant part, as in the Erechtheion, show us that the greatest sculptors tried, above all, to accomplish this desirable union.

At Pompeii, where we find once more the intimate life of the Romans, we see that in their private habitations, as well as in their monumental buildings, the decorative paintings and sculptures, although varied *ad infinitum*, are always in complete harmony with the architecture.

In the Middle Ages the charming Latin basilicas, the splendid Byzantine churches, the beautiful Roman and Gothic cathedrals, in spite of the very great liberty of movement of the sculptors and painters, show clearly that a common idea, a uniform faith, animated all the artists.

During the Renaissance, architects, painters, and sculptors completely changed their aesthetics, and the record of the unity with regard to the three arts belongs to Michael Angelo, who, as an architect, was his own collaborator as painter and sculptor.

In the Louis XIII., Louis XIV., Louis XV., Louis XVI., and the Empire styles the architects prefer the curves or the very straight lines, and both painters and sculptors in their works adapt themselves to their conceptions, and are either graceful and simple or rigid and severe, according to the different periods.

This unity of the different schools was fruitful for the artists; each of them, according to his temperament, interpreted the sentiment of art which exercised its influence on the period, and either followed or led its fluctuations.

They ignored the styles and passed, like our great colleague Blondel, from the Louis XIV. to the Louis XV. without being aware of it, simply by following the fashion. Painters, sculptors, and architects were all of the same school, and this school appeared to them far superior to all those of the previous periods; they had even a certain contempt for the said periods, and it must have been a great joy and a great force to be sure of the perfect truth of the aesthetic part of their art.

How easy and simple were the professional relations between the architect and his collaborators, the painters and sculptors; they always spoke the same language, and this common thought gave to their movements that beautiful union which is so difficult to obtain in our days.

The earthly paradise of the happy unitarian periods is closed to us. We all wanted to eat the fruit of the tree of Science. Critics and archaeologists have taught us the history of art and of the different styles, and each of us, according to his predilections, has placed in them his apogee or his decadence.

Without having an idea that art is a language which every generation must alter only a little, and that it is impossible to account for these modifications and to judge them before at least half a century has gone by, we have been asked what style we were creating? We should have answered like those heroes of a popular drama who, drawing their swords, exclaimed, "We gentlemen of the Middle Ages!" These at least did not hesitate to classify their period.

We have, besides, been told very politely that we were living in complete decline, and then instead of continuing to speak the language we had learned we were required to return to the origin. But there are so many delightful

streams and so many charming little rivelets in the stream of Art, when we try to advance up its current, that some have found the true source in India, others in Greece, certain others in Italy, and many in the Latin and in Gothic countries and elsewhere. Each artist, having found the true source, took a delicious bath in it; his followers sustained that there was not any clearer water elsewhere; but, as there were many true sources, each group speaking a dead language with which he was little conversant, the artists ceased to understand each other, as of old during the building of the Tower of Babel.

In this confusion some beautiful individualities asserted themselves, but all these schools rendered the task of the architect very difficult when it was the question of decorating a monument.

At the time when the Sorbonne was building, a great fresco of 26 metres had been decided upon for the great amphitheatre, to decorate the part at the bottom which supports the cupola.

The success depended on the tone of this fresco. Puvion de Chavannes seemed to be the right man. With him the white stone wall, almost entirely covered over, would continue to bear its cupola. But my friend Benjamin Constant, appointed for another decoration in the same monument, wished to be appointed to carry out this fresco, and the President of the Republic, M. Grévy, informed the Director of the Fine Arts, M. Kempfen, that he wished very much that he should be given the work.

The position of the architect was painful. To resist the head of the State was a difficult matter, but, on the other hand, with the powerful pallet of Benjamin Constant the semi-cupola would no longer be supported, and the general harmony would be destroyed.

I declared that if I was forced to accept Benjamin Constant I should give up the fresco and substitute an architectural motive for it. Then I was allowed to have Puvion de Chavannes.

This should always be the case; instead of the architect having a certain artist forced on him he should be given a great freedom in the choice of his collaborators, and he himself must point out the artists and follow their work, without any other preoccupation than the general harmony of his work; and he should leave to the painters and sculptors, who are responsible for their work, every liberty of form or of colours, provided they do not prejudice that general harmony without which no architectural work can really exist.

3. By L. B. MÜLLER, Architect (Eilers-Düsseldorf).

[From the German.]

The author takes it for granted that in giving the order to the architect in question the decision is based upon his evident capacity. (Success in a competition or constructions specially remarkable for their qualities previously designed by him or carried out after his plans.)

Architects thus discovered will and must possess so much common sense that they will be able to give the necessary instructions to all co-operating artists.

If it is the question that a public or national building, or also some other monument, devised by one architect, shall be adorned with statues or pictures, *the architect shall be the designer of the whole work.* It is he who shapes the frame of the picture and gives the subject for it. The other artists are the co-operators. They have to subordinate themselves to his intentions in the dimensions, in the tone and harmony of colours, in order to obtain a desired effect; if they will not, *they must not assume the task.*

If it is the question of a monument, in which either the

sculptor or the painter (interior monument) gives the tone or expression, *the architect must subordinate himself to the intentions of the relative artist, and must continue making sketches, until he has produced the impression desired by the artist; and if he cannot find it, he must withdraw from the task.*

If in the erection of public or national buildings a co-operative artist is forced upon the architect, or if, *vice versa*, in the execution of monuments an architect is imposed upon another artist, it is more than likely that their idea will be diametrically opposed.

The stronger mind will prevail, and the work will be a failure.

The watchword in every case must be: The designer of the work shall have the choice and supervision of his co-operators.

But the designer ought not to be possessed of a false sentiment of honour. He ought not to reject an improvement on his design simply because it was not *he* who hit on the idea.

He should leave to his co-operators, so long as they work with ability on the plan of his design, not only a certain liberty, but also a rightful share in the honour, "mention of his name, and recognition of any eventual improvement."

"*By so doing he honours himself.*" Now, if in what precedes it has been asked and reasons given for the subordination of the co-operating artist, then much more shall the mere artisan subordinate himself to the designer.

But, of course, the architect must in these spheres be sufficiently an adept, so as to be able to give the proper decision in the various questions which may turn up to be decided upon.

He shall encourage the artisan to express his opinion about things he believes will contribute to the improvement of the work.

He shall without fear or favour refuse to accept any work done badly or slovenly, and already in the conditions of tender he shall leave no doubt about this.

The architect must direct his fullest attention that everything necessary be carried out in the most beautiful (or most perfect) form.

In this Nature must be his model, in which everything necessary is given in the most beautiful form.

4. By GASTON TRÉLAT (Paris).

[From the French.]

Summary.—In short, I do not hesitate to declare that the architect ought to have control—with no other limit than his aptitudes and possibilities—over all the other artists and all the artisans.

This control could not be too effective, both as to the construction and the arrangement. It is thanks to this control that the departments will be able to respond to the mind that the originator has placed at the service of the programme, together with the social need which it enters into his speciality to supply.

Finally, with regard to the character which the plastic motive is to assume, the architect, as composer, is alone capable of ripening the idea which he has conceived and rendered practicable. It is only necessary to be suited with the multitude of forms which he has realised exactly by his sketches. The latter contain a complete order of ideas which the pencil permits us to understand and to hint at, and from it results a *maîtrise*—the word is not too strong—which belongs to the composer architect, and which attaches him more and more to the elaboration of the work he has conceived.

Conclusion.—Consequently it is to the architect that appertains the control of all the artists as well as all the artisans having to collaborate in the erection of monuments destined for the State or the public service.

And this until the absolute completion of the *ensemble* in question.

5. By OTTO WAGNER, Imp. and Roy. Superintendent of Works; Professor of the Imp. and Roy. Academy of the Plastic Arts. (On behalf of the Society of Austrian Architects.)

[From the German.]

In how far and in what sense is the architect to be given absolute authority over other artists or artisans in the completion of a public or international building? As regards this question, the considerations already gone into in this Society's communications on the previous subjects are to be completed by the following:

The quality and quantity of the architect's knowledge, and certainly in the majority of cases his practical capacity, certainly surpass, as has been shown, the same qualities of his co-operators; they therefore actually force the leading part in the execution of any work upon the architect. This leading rôle, if it is to be crowned with success, must be provided with absolute power over all the contributing hands, because a correct artistic and technical harmony of the various parts depends on it, and only the creator of the work—that is to say, the architect—is in a position to make the necessary dispositions.

To this has still to be added that many works and modes of use of the material are invented by the architect himself, and that he must for this reason be the master to decide about every measure in carrying out tests, trials, in making samples, &c. No doubt that about matters which deviate from the broad way of the ordinary methods he will deliberate with the contractors and purveyors, and come to an understanding with them; but the final decision in the matter can only rest with him, because he alone remains responsible to the public for the success or failure of the enterprise.

If the architect has a certain security for the success of his work in the proper selection made by him of the persons to whom the carrying-out of the various parts of the work is to be entrusted, the importance of such a choice shows itself in a much higher degree when it is the question of a co-operating artist, because in this case a new factor, viz. the individuality of the collaborator, is of the most vital importance. Every artistic conception of the co-operators must adapt itself completely to the intentions which the architect wants to realise, so that the work to be created appears as of one cast. Considering that the creator of the work alone can form a correct judgment about this, no doubt he alone is entitled to make the choice of his collaborators. The answer to Question VIII. can therefore only be:

The architect, in the construction of a building, is to be given absolute power over the co-operating craftsmen, but in a special manner over the co-operating artists.

6. By JOSÉ ANARGÓS, SALVADOR OLLER Y PADRÓS, P. DE MIQUELERENA, SALVADOR VALERI. (On behalf of the Association of Architects of Catalonia.)

[From the French.]

Having been appointed delegates by the Committee of Propaganda of the Association of Architects of Catalonia to the Congress which will be held in the great city

of London to set forth the conclusions bearing on Question VIII.: Should the architect be invested with the supreme authority over all the artists and artisans until the complete termination of State monuments or those destined for public service? and having accomplished our task, we have the honour to submit to your superior judgment the result of our mission.

During the discussion of the subject we have been assailed by the fear of not having, perhaps, correctly understood its scope and transcendency, since it is evident, and it is a matter of practice in Spain, that the authority of the architect must be supreme over all the artists and over the workmen until the complete termination of the monuments destined for the State or for the public service.

The supreme authority of the architect is necessary. The undisputed authority he must have over the workmen belonging to the building trades, properly so called, might to some people appear to be doubtful when extended to persons who are exercising one of the fine arts, and who also take part in the execution of monuments of a public character. The pretended emancipation from this authority on the part of certain artists compels us still more to defend our rights, which have not been granted to us as a matter of grace, but which are fully recognised by a law without appeal of the professional capacity and distinction, which rights must prevail as much in order to render more easy, more free, and more correct our facultative mission as to accomplish the greatest possible development of architectonic activity.

It is not meant, of course, that this justified authority shall be exercised in an arbitrary manner, since in that case all the workmen and artists would be converted into mechanical executors of the work. The authority must be exercised with the greatest discretion by giving clear, precise, and methodical instructions to the artists and workmen, taking care that these have understood the nature and importance of the work entrusted to them, so that all, by using their best endeavours, shall contribute by their intelligence and good will to the perfect execution of the work.

Powerful reasons of a moral as well as a material order can be alleged in favour of the principle of the absolute authority of the architect, but the limitations prescribed by the Congress prevent us from entering fully into the arguments necessary to completely justify our judgment, which is to make the most formal affirmation:

The architect must have the authority indicated in the question for the following reasons:—

First: Because the architect surveyor must transfer his thought by the proper means, either graphic, written, or verbal, as the case may be, to all the artists and workmen taking part in the execution of the monument, by explaining to them the reasons which determine him to take such and such a resolution; otherwise the monument would be devoid of that harmonious variety in the uniformity which every architectonic work must possess.

In the second place: Because for every edifice is necessary and indispensable an architect to direct the work in order that the building shall be carried out in the proper order and without interruptions; otherwise it would be prejudicial to the monument and to the artists and workmen who contribute to its execution.

In the third place: Because without this authority the architect could not present the necessary estimates of cost, and the technical management of the works would be difficult. In fact there would be created certain obstacles, dualisms, and suspicions, which, besides causing prejudice to the professional moral standard, would be damaging to the realisation of the work itself, because the various parts would not be in harmony with

a uniform judgment and study, and because the architect would not be in a position to insist upon the fulfilment of all the contracts of the different trades or arts which necessarily enter into the production of every public or State monument.

In the fourth place : Because it would be subversive of the dignity of the architect, who might be suspected to be lacking in the knowledge he is obliged to possess by his title and by the practical experience he has acquired in his profession, if the interference of another artistic authority were tolerated which would deprive him of the means to act, and would put him into antagonism with the conditions which must be united in an architect, and which are the outcome of the fusion of science and art.

In the fifth place : Because without this absolute authority the architect would remain by this very fact exempt from the responsibility which he enters upon towards the State or the Administration, because of being deprived of the means which such authority gives over those who are placed under him, as the artists and artisans must be—not that this subordination is to be considered as humiliating; rather, on the contrary, it is honourable for the man who is able to fill his place in the various walks of life.

In the sixth place : Because the profession of an architect is certainly the most complex of all the artistic careers, and the one which requires the greatest amount of knowledge, which fact by itself alone gives him a superiority over all the other artists and workmen who take part in the works.

One case only can present itself in which the supreme authority of the architect may be doubted upon some points—viz. in the erection of monuments which at first sight appear to be almost totally sculptural, in which exceptional case the architect gives to the sculptor the necessary freedom of action, so that the latter in the development of his idea shall not be hampered by the architectural part.

This in synthesis is our view, and we think that we are not mistaken in saying that the architect fervently wishes that his professional dignity may be protected and raised by furnishing him with that absolute authority in his relations with the other artists and artisans in harmony with the innovations of a state of civilisation which becomes every day more complex and more perfect, and that it shall be recognised by the public authorities in their works, in order that the architect shall never in any way be deprived of it, because he is prevented from it by his mission, in order to preserve his prestige in the face of the whole community and render himself worthy of it.

7. By Dr. P. J. H. CUYPERS, Architect (Amsterdam).

[Extract.]

L'architecte doit être le maître qui commande à tout ceux qui doivent concourir par leur collaboration à effectuer le bâtiment : c'est lui qui dirige le tout jusqu'à l'achèvement complet de l'édifice.

C'est ainsi qu'on a travaillé dans l'antiquité ainsi qu'au moyen-âge, c'est ainsi qu'il faut agir maintenant et à l'avenir, si l'on veut que le monument nous offrira l'harmonie dans les détails et l'unité nécessaire dans l'ensemble à toute œuvre architectonique.

De même que pour une grande composition musicale il est nécessaire que tous les exécutants se rangent et obéissent aux ordres du maître (directeur), tout aussi il est nécessaire que les différents collaborateurs d'un monument architectonique soient dirigés par l'architecte,

sans quoi il est à craindre que le monument se ressentira de l'anarchie qui a sévi pendant la construction.

Nous ne savons que trop bien par l'expérience que le peintre, abandonné à sa propre volonté, considère probablement son travail pour le monument artistique le plus important du monument, et pour cela il tâchera de fixer l'attention sur son travail par tous les moyens qu'il aura à sa disposition, indifférent pour lui de nuire à l'unité et à l'harmonie de l'ensemble du monument. Le sculpteur fera la même chose si l'on lui laisse la faculté d'agir à son gré.

La tâche et la vocation de l'architecte sont exprimées par son nom : *ἀρχι* de *ἀρχος*, commander, et *τέκτων*, artisans. "L'architecte est l'artiste qui compose les édifices, on détermine les proportions, les distributions, les décorations, les fait exécuter sous ses ordres et en règle les dépenses." (Viollet-le-Duc.)

L'homme de métier était qualifié de "maître de l'œuvre," désignation bien autrement positive du reste que celle d'architecte, car par "œuvre" on entendait tout ce qui constituait l'immeuble et le meuble d'un bâtiment depuis les fondations jusqu'aux tapisseries, aux flambeaux, aux menus objets mobiliers.

Si nous passons en revue les monuments qui sont érigés pendant les siècles dans lesquels les architectes ont abandonné leur autorité et qu'ils ont laissé aux différents artistes et artisans toute liberté d'exécution, la grandeur, l'unité et l'harmonie ont disparu par le manque d'équilibre et d'une organisation logique.

8. By MODESTE DE NOYETTE, Directeur de la Section de la Flandre-Orientale (Société Centrale d'Architecture de Belgique).

[Extract.]

L'architecte doit avoir le contrôle sur les autres artistes et sur les artisans jusqu'à l'achèvement complet des monuments ou édifices dont les plans et détails d'exécution lui ont été confiés.

L'architecte est le maître de l'œuvre. A l'idée d'élever un monument succède celle du choix de l'architecte, soit par voie de concours publics, ou qu'on tient compte de la valeur de la confiance pour le choix d'un artiste déterminé.

L'architecte est donc investi d'une mission : il assume la responsabilité de l'œuvre qu'il va élever ; il va de soit qu'il doit avoir l'autorité nécessaire. L'architecte est le créateur de l'œuvre : c'est son enfant ; c'est lui-même, et qui donc pourrait mieux interpréter ses idées, ses conceptions, que lui-même ? C'est donc bien lui qui a donné aux autres arts la place et l'importance qu'ils doivent occuper dans son œuvre.

Des conditions doivent être stipulées d'avance quant à l'autorité à la direction artistique notamment. L'architecte doit rester le maître de son œuvre, et ses collaborateurs doivent s'entendre et tenir compte de ses projets.

Si un différent surgit, si des modifications doivent se faire ou des économies être réalisées, qu'il soit stipulé que c'est à une commission des monuments, à des autorités artistiques, qu'on soumettra les propositions, et non à l'arbitraire de fonctionnaires incompétents.

Quant à l'avenir, c'est à l'éducation artistique qu'on devra s'en prendre. Il faut que l'architecte étudie davantage la peinture et la sculpture, et qu'il étudie avec plus de persistance les arts appliqués à l'industrie. Il faut qu'il puisse connaître les couleurs et qu'il sache manier le pinceau. Il faut qu'il sache modeler et plier le fer. Mais ce que nous demandons aussi c'est que l'on apprenne aux autres artistes les éléments de l'architecture,

qu'ils puissent comprendre un plan et respecter les proportions, qu'ils connaissent les matériaux et leur résistance.

A quoi nos éducateurs de l'avenir doivent viser aussi, c'est un rapprochement des artistes et artisans spécialistes. Il faut que les architectes créent des cercles où les peintres et les sculpteurs viennent les rejoindre et les connaître. Il faut que les sculpteurs et les peintres nous prouvent par leur conduite, par l'organisation de leurs expositions, par leurs écrits et par leurs rapports de tous les jours que l'architecture est la mère des arts, et qu'avec la peinture et la sculpture elle constitue une triplée où elle occupe la première place.

Il faut que l'architecture ait sa place légitime dans nos musées publics. Il faut que l'on rappelle par des expositions tous les chefs-d'œuvre que l'antiquité, que le moyen-âge, nous a laissés. Les peintres et les sculpteurs y puiseront des leçons pratiques; ils connaîtront ce qu'a été la grandeur et la réussite de ces monuments, l'harmonie, l'entente entre les artistes, leur quasi-confusion.

Il faut s'aimer, se respecter et travailler la main dans la main, et au lieu de se démolir, au lieu de vouloir dominer

chacun dans sa branche, travailler à la réunion de l'œuvre et au progrès artistique. C'est dans cette voie que je vous convie à entrer. Préparons par notre déjà longue expérience le chemin aux jeunes; c'est les laisser un bien beau patrimoine d'éducation artistique. Et s'il fallait pour le moment encore protection pour l'artiste, que les architectes, autant que les peintres et les sculpteurs, tendent tous leurs efforts pour obtenir des lois qui nous mettent à l'abri des exploiters modernes.

Resolution of the Congress.

Speakers in the discussion were MM. Ellicott (Baltimore), Rozet (Paris), Bonnier (Paris), and Poupinel (Paris).

The resolution proposed by Herr Wagner (Vienna) was seconded by Mr. Howard Ince and adopted as follows:—

That the architect in the construction of a building should be given absolute power over the co-operating craftsmen, but in a special manner over the co-operating artists.

SUBJECT IX.—THE RESPONSIBILITIES OF A GOVERNMENT IN THE CONSERVATION OF NATIONAL MONUMENTS.

Thursday, 18th July.—Institute Meeting-Room.

Chairmen: M. E. V. Dählerup (Denmark); Mr. Alexander Graham, F.S.A. (England).

Hon. Secretaries: Mr. C. A. Cowper (Melbourne); M. Franz de Verstel (Belgium).

1. *Government Action on the Continent in the Interests of National Monuments.*

By Prof. BALDWIN BROWN, M.A.

The question of the proper treatment of ancient monuments has engaged the attention in previous years of the International Congress of Architects, and at the last meeting, held at Madrid in 1904, various resolutions were passed on the subject, one of which was to the effect that "a society for the preservation of historical and artistic monuments should be established in every country," and that all such societies "might be grouped for common effort and collaborate in the compilation of a general inventory of national and local treasures." It is the aim of the paper to give a succinct account of the measures actually in force on the Continent for the furtherance of the cause of monument protection, with a view more particularly to advance the cause in Great Britain and Ireland.

The buildings and works of art that have come down to us as a legacy from the past represent national assets which can never be increased, and the problem how best to deal with them is the same in all European countries, though it has been approached, grappled with, or evaded in different fashions. A knowledge of the principles and practice that obtain abroad must necessarily be of value to those interested in this question in our own country.

A comparison of British arrangements for the safeguarding of ancient monuments with those that exist in Continental countries gives the following results. Almost everywhere abroad the initiative has in this department been taken by Governments, while in Britain private individuals and societies have practically done all the work. The British Ancient Monuments Protection Act

of 1882, though actually passed as a Government measure, had been due to private initiative. More recently, however, there have been encouraging signs that British Governments are coming to recognise this protection as a suitable matter for State care, and the Ancient Monuments Protection Amendment Act of 1900 represents a distinct advance.

Continental Governments have expressed their solicitude on this matter in various fashions, the most common and one of the most effective of which has been the establishment of State Commissions charged with the upkeep of national treasures of architecture and art. Some of these Commissions have been at work for the best part of a century, while others, as in Holland, have only recently been appointed. They exist in at least a score of European countries. Apart from the maintenance of State Commissions, Continental Governments have shown their care for monuments by issuing numerous rescripts, royal and ministerial, some of which date back to the seventeenth century. The Prussian and other German Governments have been especially active in this department, and about fifty Prussian rescripts of the kind were promulgated between 1815 and 1881.

In most cases these rescripts, and the regulations issued by the State Commissions, have not possessed the binding force of law. They have worked well, and been generally obeyed by intelligent and docile citizens, but have not possessed the power of actually controlling the recalcitrant. The formal Monument Act, with its penal sanctions, is something different and more cogent. Such Monument Acts exist in more than a dozen European States, and Great Britain is one of these. British legislation differs, however, from that of other countries in that it confers no compulsory powers over monuments in private or corporate ownership. In the case of all other Monument Acts the proper authorities are given

the power to expropriate, on grounds of public utility, any ancient monument of great value that is in danger under its existing ownership. The British Act has no compulsory clause of the kind, and only contemplates a friendly contract between private owners and the public authorities. The contract is voluntary, though while it is in operation the law enforces its provisions.

The work of Continental Monument Commissions, whether or not this is carried on under a formal Monument Act, is generally based on a list or schedule of national monuments which are worth preservation either on artistic or on historical grounds. This implies a process of inventorisation. Such a survey of the national assets in this department is in progress in almost all European countries, and here again Great Britain is conspicuously behind her sister nations. In our own country there is a precedent for State action of the kind in the Department of Historical Manuscripts, on the cataloguing of which a Royal Commission has been at work since 1869. Nothing of the kind has yet been attempted for works of art and historic buildings. There is, however, a growing demand for some State action of this kind in the British Islands; and it is suggested that the International Congress should strengthen the hands of those who are working in this direction by a memorial in favour of a Government scheme for the survey and inventorisation of the vast treasures in ancient monuments and works of art which this country possesses, and for which there is practically no legal protection. It is generally acknowledged that the British Government owes something in this department to the country, and the appointment of a Royal Commission for the purposes just indicated would be the most practical measure that could be adopted.

2. By A. BERNARD (Architect, Paris).

[From the French.]

For a long time past the question of the preservation of national monuments has occupied the minds of enlightened persons. In fact, the Congresses of Architecture, of the public arts, or of archaeology, which have succeeded one another for some years past have been called upon to discuss this important problem without, however, up to the present any palpable result having been obtained.

On the other hand the efforts made on various sides by the Governments show their benevolent solicitude, but they prove at the same time the necessity of having recourse to a uniform programme the elements of which it is necessary to find out.

It is with this object in view that we have made a list of the different measures which in our opinion should contribute in the most useful manner to obtain this result, and we submit it to the judgment of the Congress.

First of all, it is absolutely important that the Governments should have the power to bring about the obligatory expropriation in every case where a monument which presents an historic, artistic, or archaeological interest shall not be kept in proper repair by its owner.

That never, unless it be absolutely and immediately needed, should administrations be allowed to carry out, or to authorise private persons to carry out, works which may cause the disappearance or the ruin of a monument the historic or monumental interest of which is recognised by all.

That everywhere where the site shall form the natural frame of the monument it shall be prohibited to touch it in any way whatever.

That in the formation of streets and sewers [the administrations shall be bound to respect the ancient

monuments which happen to stand in the line of the laying-out plan, and that in certain cases these monuments shall be made the basis of such laying-out plans.

That in case it should be found absolutely impossible to preserve a monument, it shall be the duty of the administrations, before any demolition work be started, to take photographs, and make faithful abstracts and casts to be deposited in the local museums, and that the fragments of architecture, sculpture, and locksmith's work coming from the demolition of such monuments be distributed among the local or regional museums.

That particular instructions shall be issued as to the mode of proceeding in these demolitions.

That encouragement shall be given to such municipalities to suppress any parasitic structures which hide from view the monuments of the past.

That wherever it is possible the monuments shall be preserved for their original purpose, and that for the others measures of hygiene and salubrity shall be taken which will allow them to be utilised. A considerable number of old houses which are interesting from a monumental point of view could thus be preserved to posterity.

That at no time shall the municipalities be authorised to entrust with such work agents of the local public service, but always architects appointed by the Government.

That in the case of enlarging a town the public authorities shall be obliged to preserve its primitive aspect in the main outlines, and thus make it possible to perpetuate its original character.

That advertising shall be strictly prohibited on and around the monuments.

That archaeological inventories made on a uniform plan shall be compiled everywhere, so as to secure the perfect and complete knowledge of all the national art treasures.

That in cases where the credits will not allow the immediate execution of the work of restoration of the monuments, measures of protection shall be imposed (particularly with regard to sculptures); and as a first consequence that in all buildings devoted to religious services the tumular flagstones shall everywhere be taken up and placed against the internal walls of the buildings.

That in the case of restoration, instructions, based on a standard programme, shall be the rule for the architects appointed to carry them out. Among these rules we would mention especially the obligation of preserving to each monument, for all the parts to be restored, records of the previous state. To use (in all cases where this will be possible) the original materials and to respect the dispositions of the ground plan, these dispositions being elements of the characteristic features of the different styles.

That previous to any restoration a very accurate report on a large scale of the actual condition shall be taken, with casts of the sculptures and the most characteristic profiles.

That general rules shall be established for the placing, the maintenance, and the restoration of painted glass windows.

As the mission of the Governments is not only to think of the present, but also and above all to make preparations for the future, they must try to surround with a sentiment of art their programmes for the general instruction of the masses, so that there may be created in the latter a respect for monuments of which at present they are too often devoid. To take one instance, we should see that good reproductions of the masterpieces of monumental art have their place among the list of scholastic pictures, and that in the large towns museums of casts

be established on the lines of our admirable museum in the Trocadero.

The Governments should encourage with the greatest care the public and private schools of apprenticeship in order to preserve the taste and the skill of the workman and the artisan, without which the work of the architect could never become perfect.

The Governments should also encourage the private societies which have for their purpose the preservation and the defence of monuments, especially by granting them privileges which will enable them to usefully carry out their mission.

They should also encourage the publication and the diffusion of private monographs, such as the one in France entitled *The Church of Our Lady, Cathedral of Amiens*, by G. Durand, published under the auspices of the Society of Antiquaries in Picardy; also those treating of the local influences, such as *The Religious Architecture in the Ancient Diocese of Soissons in the Eleventh and Twelfth Centuries*, by Lefèvre Pontalis; and finally those of collective documents such as the *Collection of the Archives of the Commission for Historical Monuments*, published under the patronage of the Administration of Fine Arts, by MM. de Baudot and Perrault-Dabot, which contains no fewer than twelve thousand documents, and the interest of which, being admitted by everybody, forms a collection of the very greatest importance.

3. By W. R. LETHABY.

The systematic study of ancient art has led to the perfecting of a second method of research, the history of civilisation by its monuments—and at the same time a conscious love of old works of art has been awakened. These, the poetic and historical aspects of old buildings, are dependent upon their authenticity. Such monuments are not mere records; they are survivals, while they preserve the handiwork of the men of old. On the historic side nothing else is a valid document, and on the side of feeling nothing else can touch our imagination.

While the science of archaeology was being built up experts were betrayed by their knowledge and enthusiasm. They did not think of the difference between the mere form of an old monument and the living building itself. Even when they did not make all new they refused to see how they wounded the old by placing their conjectures by the side of it. Restorers acknowledge that harm was done in the past, and then with professions of sympathy they go and do likewise, taking the new word "repair" in place of the old word "restoration," but with similar result.

Renewal is going forward at quickened rate all over Europe, and the most ancient and beautiful buildings are those which are passed through the mill of restoration and left desolate. St. Front, Périgueux, excited so much interest that it was made over again. The Dom at Aachen is being covered up with fashionable marbles and mosaics; Murano Cathedral looks as if it had been supplied from a factory; and so with many others.

In every country protests have been made—in France lately by Emile Hovelague, in Germany by Strzygowski, in Italy by Boni, in England by Ruskin and Morris—but the custodians of ancient buildings and their architects make a few verbal concessions and go smiling on their way.

The alternative to this method of dealing with old buildings is persistent care and repair, as of national treasure to be guarded. As fragmentary works in a museum seem all the more precious for showing a history of antiquity and loss, so it is with an old building; and

if it be cared for in this spirit of proud guardianship no necessary strengthening and upholding will harm it.

It is usual to object that old buildings are not in museums, and have to be maintained for use; but no proper use is hurtful. The use and stability of our cathedrals have been sacrificed to the caprices of ornamental decoration. If the principle is accepted that our object is the preservation of the integrity and authenticity of a monument, we can hardly go wrong in carrying out needful repairs. Much experience is stored up in the papers issued by the Society for the Protection of Ancient Buildings.

If architects must restore, let them do it on paper only, without impairing the evidence of the building itself, evidence which disappears when they actually build their theories, so that we have not even the satisfaction of being able to prove them wrong.

We can hardly go to any famous building in Europe without finding extensive works in progress; and unless there is soon some great change of policy there will be little left that is truly old to hand on to posterity.

4. By JOSEPH ARTIGAS Y RAMONEDA (Barcelona).

[From the French.]

Conclusion.—From my determining the "nature of national monuments" deciding "to whom they belong," and fixing the "advantages of their conservation," it follows logically that the only way of preserving them is incumbent on peoples and Governments, on the latter resting principally the sole responsibility for their loss, for the reason that they alone have the active authority to avoid it, and the charge of the necessary public moneys to preserve them from the natural decay which the parts must suffer both through the action of time and from the destructive hand of man.

5. By the TUSCAN COLLEGE OF ENGINEERS AND ARCHITECTS.

[From the Italian.]

The late engineer and architect, Professor Giuseppe Poggi, of Florence, Honorary President of the Tuscan College of Engineers and Architects, and *Correspondent* of the Royal Institute of British Architects, in some memoranda and articles which are now being collected by his family into a single volume, together with other documents concerning art, on several occasions expressed his views with regard to the responsibility of the Government for the preservation of national monuments. This College now submits to the Seventh International Congress of Architects in London the extract from the volume bearing on this subject, which has been presented by the family, together with an epitome of the opinions expressed by a person of such universally recognised authority.

As early as 1845 Professor Poggi had written a Paper "Concerning the Respect which we owe to the Antique Monuments," and in 1864, in a memorandum read at the Royal Academy of the Friends of Geography, "On the Project of Expropriation with a view to the Preservation of the Monuments," he summed up his impressions about the law presented in the Italian Parliament, concluding with these words: "The spirit of that Government is provident which determines by the means of expropriation to secure the preservation of the monuments of art and of national history which are of an immovable character, and the preservation of which would be in danger if they continued to remain in the possession of private individuals or of corporations.

"In our opinion, such a wide and generic law cannot be productive of the beneficent effects which it is intended to achieve, by reason of its own excessive vastness, because neither the State nor the communes could support the immense expense which the wide application of the law would entail.

"In order to obtain the desired results it would, in our opinion, be convenient that the law should be assisted by preventive measures and by arrangements which would render its application less frequent.

"Among these arrangements we should consider the following to be of great efficiency:

"1. The compiling of an illustrative list which would indicate those monuments of national interest, compiling it with such discretion as not to register without good reasons any except those immovable monuments which are really worth preservation.

"2. To make appeal to the citizens and corporations, owners of such immovable objects of art, with a view to revive in them the ancient sentiment of the beautiful and to encourage them to make the necessary sacrifices; further, to animate the whole nation and the municipalities with a sense of gratitude and esteem towards those who fulfil such a noble and patriotic duty.

"3. In such cases where this appeal should remain of no effect, it would be necessary, with regard to immovable monuments of practical usefulness, to order the restoration within a given period, and in case of failure to have it done by the commune at the expense of the owner. Should this appear to be too harsh, the property should be expropriated and sold by public auction with the prescriptions adapted to the case. For those private properties used for religious purposes, the patronage should be ceded to families who would undertake to keep them in proper repair. In the case of those properties used for religious purposes and belonging to corporations, orders should be given for their restoration or their keeping in repair, and should they be too poor to do it, expropriation should not be declared unless there was the certainty of a better preservation. Finally, for those which are neither among the number of the properties put to a private use nor among those used for religious purposes, it might, in the case of bad preservation, be convenient to declare for them only the permanent expropriation, this course, for the reasons indicated, not being a burden either to the State or to the communes.

"4. In conclusion, to form a fund, not so much for the purchase of immovable monuments which may come under the law of expropriation for permanent preservation, as for the purpose of covering the losses on the price of those which must be sold at once by public auction, and to furnish the funds for the necessary repairs."

In another memorandum, read at the second Congress of Engineers and Architects in Florence in the year 1875, bearing the title, "On the Preservation of the Monuments of Art and Archaeology," at the time when it was proposed that the Government should lose no time in passing a law for such preservation, Professor Poggi set forth the following conclusions:

(a) That it would be necessary to render it obligatory, in cases of important restorations of national monuments, to obtain the previous decision of the consulting provincial commissions.

(b) That the monuments belonging to private individuals should be submitted to the same law of preservation, adopting the course which shall be deemed most convenient. In any case it should be ruled that the private monuments should form part of the general inventory of the monuments of the nation.

(c) Before the consulting provincial commissions enter

upon their duties, the foundation and the principal evidence for the preservation and restoration of the architectural monuments in question, and for the formation of the inventories of those which must be declared to be of national interest, should first be discussed and established by architects and other artists, as well as by archaeologists and other competent persons. These inventories should be accompanied by the plans, sections, and perspective views considered necessary to give a clear idea of the present state of the monument, and of the necessity of its restoration and preservation.

(d) Appeal should be made to the Government itself, with a view to steps being taken to constitute a fund or a revenue which will furnish the means for carrying out and observing the law in a convenient manner, either by the Treasury making return of such part which it might have unlawfully appropriated and which was to be used for the preservation of works and monuments of art, or by issuing such measures as will be considered most to the point. And there being among these measures that of the entrance fee for visiting the museums, art galleries, antique monuments, &c., it is to be hoped that the receipts therefrom will be entirely destined for the above purpose.

On later occasions Professor Poggi recommended that the means at disposal should be put into operation at once for the restoration and the preservation of the large number of architectonic monuments which suffer, and the importance of which becomes known on the occasions when new excavations are opened, and when searches are made for remains of Etruscan, Greek, and Roman monuments.

"Italy," he wrote, "is already recognised by the whole world as a great country on account of her numerous and varied monuments which have been uncovered. It is not urgent to excavate the buried remains, because in the state of preservation they are in now they will be found unaltered in a couple of centuries; but we cannot say the same of those which are visible objects of admiration and of study, and of which it behoves us to arrest the decay without delay, unless we are to see them pass away from us for ever."

6. By GASTON THÉLAT (Paris).

From the French.

Summary.—If the State is a chief synthesis of collective interests the Government is the effective agent of the measures which these interests demand.

Now, monuments are important elements of national beauty. As such they form part of the preoccupations which in our days *public art* would tend to claim and bring within its compass.

This new institution has already taken a place in parliamentary deliberations with regard to the preservation of sites; and finally Governments have no longer the right to be indifferent to it. National monuments are important elements of public beauty. They have therefore a conspicuous place, with this inherent and distinctive feature, that they were included in the former classification of the Fine Arts.

If Governments should be indifferent to their preservation and maintenance, it would be going against the great fact which becomes more and more evident, and which takes a character of social progression, to at least honour our time.

Conclusion.—Monuments are a source of public beauty, and their preservation ought to be submitted to the deliberations of competent persons representing the

collectivities interested. Consequently it involves in the highest degree the responsibility of Governments.

To facilitate the double operation, as well as to effectively instruct the public as to the results expected, there is reason to desire that, whenever it is shown to be useful, the custom of making temporary models before any definitive execution should be extended.

Resolutions of the Congress.

The following members took part in the discussion: MM. Besnard (France), W. D. Caröe, M.A., F.S.A., Alexander Graham, F.S.A., Professor Baldwin Brown, M.A., and Commendatore d'Andrade (Italy).

On the motion of M. Besnard, seconded by Commendatore d'Andrade, the Meeting resolved:

That in all countries the Governments shall be authorised to obtain if necessary the compulsory expropriation

in every case where a monument possessing historical, artistic, or archaeological interest is not kept in a due state of preservation by its owner.

Further, on the motion of Mr. Alexander Graham, F.S.A., seconded by Mr. W. D. Caröe, M.A., F.S.A., the Meeting resolved:

That this International Congress of Architects recommends that the British Government be approached with a view to appointing a Royal Commission to control and extend the operations of the Ancient Monuments Protection Amendment Act of 1900 and to prepare an accurate catalogue of all ancient monuments, whether historic or prehistoric, taking similar action to that of the Department of Historical Manuscripts and in agreement with the measures adopted in other countries.

SUBJECT X.—THE CONDUCT OF INTERNATIONAL ARCHITECTURAL COMPETITIONS

Wednesday, 18th July.—Institute Meeting Room.

Chairmen: Dr. Ing. Hermann Muthesius (Germany); Mr. H. T. Hare (England).
Hon. Secretaries: Mr. E. Guy Dawber (England); Senhor Ventura Terra (Portugal).

1. By J. GUADET, Inspecteur Général des Bâtiments Civils, Professeur à l'École Nationale des Beaux-Arts, Membre du Conseil Supérieur de l'Instruction Publique.

[From the French.]

1. *The Advantage of International Competitions.*

These competitions are legitimate in certain circumstances. It would be dangerous to have recourse to them without advantageous motive.

Examination of this question:—

2. *The possible Scope of the Competition.*

The result of every competition is only a preparatory scheme, the preliminary design with estimate of expenses. It cannot produce a definitive design; this must be elaborated afterwards.

The cost of the competition should be kept distinct from the cost of the execution of the building.

In international competitions especially it is dangerous to promise the execution of the work to the author of the first premiated design.

3. *Conditions of the Competition, Regulations, and Programme.*

These conditions contain two elements: regulations and programme. For both the advice of experienced architects is indispensable.

The regulations must allow the same time to all competitors.

Programmes must be given out simultaneously in every country.

The programme should be issued everywhere in the language in which it is drawn up and not in translation.

Every further communication should be addressed to all the competitors.

During the competition no change should be made in the regulations governing it.

The same date for sending in designs should be obligatory everywhere, and designs should be sent in to a place specified for each country.

The premiated designs should become the property of the promoters, but without prejudice to the laws of artistic copyright.

An exhibition of designs before and after adjudication is necessary.

The regulations must indicate whether the designs should be signed or distinguished by a motto; signature is best, but the adoption of a pseudonym should be allowed.

No envelope containing an author's name should be opened without his consent, except in the case of premiated designs.

The technical programme should be clear, precise, and drawn up under the advice of experienced architects. It should avoid directions which cannot be followed, and should not impose excessive work by means of drawings that are useless or too large a scale.

The competitors' personal expenses should be reduced to a minimum.

4. *Assessing the Competition.*

The jury should only consider justice.

The conditions constitute the contract; a matter of law between the parties.

Every design, no matter how attractive, which violates the conditions should be disqualified.

The jury, necessarily competent, should be composed of architects.

The promoters who are interested should be present in a consultative capacity.

The jury should classify the designs and allocate the premiums.

The jury should be formed of architects of each nation represented in the competition in the proportion of one assessor to ten competitors or fraction of ten afterwards.

Every nation represented by less than ten competitors, with a minimum of five, should have the right to one assessor.

The architect assessors should be elected by the competitors of each nation, each name receiving an absolute majority of votes.

Study of the Working Arrangements.

To obviate non-acceptance the competitors should elect simultaneously an equal number of supplementary assessors.

The jury should elect their president, secretaries, and reporters.

The jury should be master of their procedure, but they should not be able to modify the distribution of the premiums, nor the total amount.

Vote by proxy should be forbidden.

The judgment of the jury should be final and without appeal.

APPENDIX.

Competitions in Two Stages.

Special conditions for these competitions.

The first and second competitions are different things, and should not be confused one with the other.

For the first stage a large sketch plan is sufficient.

The chosen competitors should be indemnified for the cost of the first competition. They should not be classed, and the premiums should be reserved as an extra matter for the final competition.

It is preferable that the first competition should not be exhibited, all the sketches being preserved so as to be exhibited with the final competition.

The regulations ought to specify that the competition be in two stages. This decision should not be taken afterwards.

The regulations should fix all the dates.

They should prescribe the minimum number of accepted competitors who, after the first competition, should receive the stipulated honorarium. They should make known the premiums granted in the final competition.

The jury in the first competition should also judge the second, latitude being given to the accepted competitors to add additional assessors.

The regulations should be final for the two competitions, but the programme should be given for the first alone, subject to modifications for the final competition.

2. Rules proposed by the Society "Architectura et Amicitia" (Amsterdam).

The Society "Architectura et Amicitia" (Amsterdam) proposes to the Committee of the Seventh International Congress of Architects the following rules to serve as a basis for "the organisation of public international competitions for architecture." These propositions having been made by a special commission of the members of our society, they have been decided upon as definitely approved at the meeting of April 18, 1900.

ART. 1.—The International Congress of Architects frames some regulations in accordance with which permanent competition commissions are constituted, representing the architects of a country or also of various nationalities combined, which will act as representatives of the profession of architects in the preparatory measures at the international competitions. The commission of the country in which the competition is to take place will assume the management of the business. The presidents of all these commissions constitute together a Central Council, to which is entrusted the control of the international regulations and the eventual propositions made to the International Congress concerning alterations to be made in these regulations.

ART. 2.—The international competitions shall by preference take place in two sections. Preliminary competitions shall be opened in the various countries, or groups of countries, through the medium of the permanent commissions of the competitions. The admission to the final competition will be limited to those who earn distinction in the preliminary competitions. An honorarium shall be distributed to all the competitors in the final competition, the number of whom is limited for each country or group of nationalities by the International Congress.

ART. 3.—The conditions of the competition must be the same for all competitors. Exceptional conditions, no matter under what form, are prohibited. The delivery of the designs must be made anonymously.

ART. 4.—The date of the sending off, proved by the stamp of the stations of departure, which must be delivered to the jury, shall be taken as the final term for the closure of the competition. The programme of the competition shall be published or placed at the disposal of the applicants in all the countries, or groups of countries, at the same date.

ART. 5.—The jury of an international competition will in principle be formed by half the number, less one, of the members of the nationality of the country in which the competition is opened. Architects must form the majority of the members of the jury. The names of the members of the jury and of their substitutes, with the declaration which contains the approval of all the conditions, shall be inserted in the programme.

ART. 6.—The jury of the country in which the competition is held forms the information bureau. The publication of announcements relative to the competition will be made in such a manner that it may be considered to have come to the knowledge of all interested parties. These announcements shall have the same value as the conditions of the programme.

ART. 7.—The programme must express in precise terms the conditions made, making a distinction between the absolute requirements and the optional requirements. It would, however, be preferable that optional conditions should not figure in the programme of the competition.

ART. 8.—The number of drawings to be sent is to be limited to the quantity absolutely necessary in order to avoid all useless work and superfluous expense. For the provisional competitions, sketches, eventually accompanied by approximate estimate of costs, will be asked for. Any drawings sent in which have not been asked for in the programme will not be submitted to the judgment of the jury. The programme prescribes a uniform manner of treating drawings to enter into competition. Every delivery must be accompanied by a declaration that the project is the artistic copyright of the competitor.

ART. 9.—Should the sum available for the execution of the design be absolutely fixed, the programme must indicate the necessary particulars for the uniform working out of the estimate of costs either in detail or approximately. The expenses for the foundations will not be included in these estimates. The programme will have to contain very precise indications with regard to the character of the soil, the site, the foundations, and the surroundings.

ART. 10.—The total amount of the prizes to be distributed shall be at least equal to double the amount which would be paid for the architectural part of the work carried out to an architect who had been entrusted with the execution of the design. It must be admitted as a principle that the execution of the design shall be entrusted to the successful architect, under the conditions which are in force in the country of such competition.

The amount of the prize shall not be deducted from the amount of the honoraria to be paid. Should the promoters of the competition desire to reserve to themselves the option to dispense with the services of the architect declared to be the author of the best design, the programme must set out the terms of indemnity. Should the work not be carried out, the same indemnification should be paid to him. In all cases the designs sent in shall remain the artistic copyright of the competitors.

ART. II.—All the designs shall be publicly exhibited for a sufficiently long period in order that the competitors may be able to visit this exhibition, which shall be announced beforehand in the architectural publications. The complete and detailed report of the jury shall be published in the architectural periodicals before the opening of the exhibition, so that all the parties interested may have knowledge of it. The report of the conclusions of the jury of the preparatory competitions shall be communicated sufficiently to the successful competitors previous to the definite competition.

3. By GASTON THÉLAT (Paris).

[From the French.]

Summary.—The argumentation of the previous subject bore, in the first place, on the spirit which in general dominates architects. Contrary to the intentions of a generous application of art, the architect often seems too preoccupied about not doing certain things. And one spends a good deal of time in learning those things which must be avoided. Wasted years! it seems: how much more preferable would be an education which faced the realisations to be deduced from contemporary science? This would adjust itself to the standard authorised by experience.

Competitions, as they are now held, have not the scope they ought to have. Conventions take up too much place, one has a sense of things learnt: book-keeping of a new kind and without influence on the mind of the masses.

Public beauty, like public health, corresponds with the contemporary movement of democracy, of which these two capitals are a momentary crowning. The architect has no right to separate himself from it if he wishes to fulfil the function expected from the social competence it is his duty to show.

Internationalism and publicity will give to competitions a youthfulness and a vitality which they have not had up to now, and which are a part of the movement of contemporary effort.

These competitions should have exclusively in view the services of which they are the object. It must be so, in order to ensure to the operation a normal rectitude which would keep it above the paltrinesses which are too well known and are lowering to art, causes lowering alike for competitors and judges, and injurious to the solutions to be gathered.

The competitions being international, the nations taking part in them through their artists will all include the same number of judges.

In this way the competition agents, whom the judges represent, will doubtless be less inclined to look upon themselves as a delegation having to represent the interests of compatriots, or the idea in fashion currently admitted in their country. The jury will be more particularly engaged in selecting and bringing about a solution, while the competitors themselves, in consequence of the absence of preconceived ideas represented with a show of authority, will strive to elaborate and present different sides, to the exclusion of all party spirit. And, in these days, if

one wishes to respect personalities alike useful in art and in science, it is impossible to be sufficiently on one's guard against these fatal influences. In effect, whatever may be the interest of contemporary evolution, with its abundance of curious observations and generous comparisons in their knowledge, ill-luck will have it that, in revenge, we must endure the narrow ideas of little groups and clans, which bring confusion into the service of the human collectivity. It is, however, to this that all our efforts should directly refer, free from this impediment, very regrettable socially.

To bring this *résumé* to an end, with regard to competitions I must again say that the spirit of argumentation followed in these lines endeavours to ensure the supremacy of the decision, uniting the choice of the work and the choice of the artist charged with its execution. The author of the first idea ought to complete the studies and accomplish its realisation. And the same spirit which the decision has intended to make clear will be found in the accomplished work. This is how things should go, if one would keep to the rectitude that the situation demands and respect the responsibility that the decision imposes on the jury.

And the organisation, as sketched here in its characteristic features, would perhaps be destined to give results still unforeseen. But this would be on condition of always keeping in the path that would normally be deduced therefrom, once agreement was come to on the ideas which support the solution I submit to the Congress.

Conclusion.—Without consciousness there is neither art nor artist. It is only by a wide comprehension of things, all leading to the consciousness of his time and of humanity, that the artist can do a useful work. In these days the widening of science serves as a basis to this consciousness. And the applications of the art take a special character in order to supply the needs and aspirations of the period.

The organisation of international competitions showing a greater amplitude of intellectual horizon would be in accordance with the ideal of the day.

Again, these competitions would have the advantage of extending the character of educations which up to now have remained restricted to present requirements.

But measures would have to be taken to ensure the entire liberty of intellectual expansion amongst the artists entering into competition, to afford the jury an unlimited independence and to enlighten the consciousness of the verdict they would give.

4. By P. A. WEERDENBURG (Rotterdam).

[From the French.]

The Society Bouwkunst et Vriendschap of Rotterdam, while recognising the great initiatory value of the propositions made by the Society "Architectura et Amicitia" of Amsterdam for the regulation of International Competitions, considers—

That the suggestions made by the above-named Society should be more widely extended. This opinion is based on the experience acquired at the last International Competition for the Peace Palace at the Hague.

This last competition has clearly proved that it is necessary to paraphrase the principal duties of the jury of competitions in general, and of International Competitions in particular. The Society Bouwkunst et Vriendschap of Rotterdam is of opinion that it is preferable that the new conditions (*redaction*) be drawn up by a Special Commission, and that a motion (*conclusion*) be presented to the next, the Eighth, International Congress of Architects. In order to give a wider scope to the propositions

made by the Society "Architectura et Amicitia" of Amsterdam, the Society Bouwkunst et Vriendschap has the honour to submit to the Seventh Congress the following motion:—"That in view of the fact that the proposition of the Amsterdam Society 'Architectura et Amicitia,' presented to the Seventh International Congress, deserves to obtain greater scope, the Permanent Committee of the Congress shall appoint a preliminary (*préparatoire*) commission, on which the Amsterdam Society 'Architectura et Amicitia' shall be represented. This Commission to consist of seven members."

Resolutions of the Congress.

The following members took part in the discussion: Signor M. E. Cannizzaro (Italy), MM. Georges Harmand (France), G. Oakley Totten, jun. (United States), G. A. T. Middleton, Augustin Rey (France), Henry T. Hare.

M. Weeldenburg's motion, as above, having been seconded by Signor Cannizzaro, an amendment was moved by M. Harmand, seconded by Mr. Oakley Totten, and adopted by the Meeting as follows:—

That the Congress, taking into consideration the reports submitted, recommends them to the examination of the Permanent Committee of the Congress in order that they may submit a special report to the next Congress.

It was further decided to submit the following recommendations to the Permanent Committee:—

1. *That the Permanent Committee nominate a special commission of seven members to study the question of international public competitions and report to the next Congress.*
2. *The competition programme should declare that the members of the jury by the fact of their acceptance of the office have not and will not have directly or indirectly any material interest in the execution of works put up to competition.*

EXTRA PAPERS.

1.—NOTE ON THE CHÂTEAU OF SAINT-GERMAIN.

By HONORÉ DAUMET, Membre de l'Institut de France.

Tuesday, 17th July.—Institute Meeting-Room.

Chairmen: Mr. Reginald Blomfield, A.R.A. (England); Signor E. Cannizzaro (Italy).

Hon. Secretaries: Monsieur C. V. Bartaumieux (France); Mr. Harbottle Reed (England).

The origin of the Château de Saint-Germain-en-Laye, one of the most important that France possesses, is not known for a certainty. The kings of the first two lines probably indulged in the pleasure of hunting in the vast forests which covered the hills at the foot of which flows the Seine, but there is no certainty that they had any buildings there. King Robert I., in the beginning of the eleventh century, founded a church on the highland which dominates the village of Pecq. It is only in the twelfth century that there are positive proofs that there existed a royal residence on the spot where stands the present castle. Louis VI., who reigned from 1108 to 1137, is the first sovereign from whom an authentic document makes known to us his presence at Saint-Germain. His successors made frequent sojourns there: Louis VII., for instance, who resided there in 1143, and held a conference with Henry II., King of England; Philippe Augustus, who made his will there and built the first chapel of the castle. St. Louis received there in 1247 the Latin Emperor of Constantinople, Baldwin II., who made him a present of relics of the Passion. In order to enshrine them the pious monarch gave orders to build the Sainte Chapelle of the Palace in Paris.

The Castle of Saint-Germain was therefore already during the thirteenth century an important royal residence: it was then composed, besides a dungeon, of two blocks of buildings for habitation, placed one in continuation of the other, the foundations of which still exist, and which have been recognised as such by excavations. The chapel of Philippe Augustus being found insufficient, it was replaced in the reign of St. Louis, between 1230 and 1240, by a more sumptuous building, which has

remained almost intact until the present time. This is a piece of architecture of remarkable beauty, the merit of which may perhaps be attributed to Pierre de Montreuil, who during the same period built part of the abbey church at St. Denis, certain details of the two monuments being identical.

Inhabited successively by Philippe the Bold, Philippe le Bel, and Philippe of Valois, surrounded by a park, the first mention of which is to be found in 1331, the castle was burnt during the English invasion in 1346, but it was not completely destroyed. The chapel fortunately escaped the fire, and steps were soon taken to rebuild from its ruins and to enlarge a residence where the various successive sovereigns were so fond of staying. Charles V. seems to have been particularly fond of the place, and we know that he had important work carried out there: it is to him that we owe the present circunvallation wall which encloses in its perimeter the big dungeon built by Louis VI. and the chapel by St. Louis. This wall, which is fortified in the manner of the period, had the form of an irregular pentagon: it was afterwards used as a sort of sub-basement for the building erected under the reign of Francis I. Inhabited still by Charles VI., the castle was during several years occupied by an English garrison. Subsequently it remained uninhabited during the end of the fifteenth and the beginning of the sixteenth century.

Francis I. gave orders to rebuild it and to follow the surrounding wall of Charles V. The new buildings must have risen quickly, the simplest materials being used for them. The work of the Middle Ages disappeared almost completely, with the exception of the chapel, which was left standing, but which was partly hidden

on the side of the apsis by new constructions, whilst the rose window was obscured and crushed by the wall of the Salle des Fêtes, a magnificent hall illustrated in Du Cerceau's precious work. *The Most Excellent Buildings in France*, the original drawings of which are now the property of the British Museum. Du Cerceau does not give the name of the architect who worked under the orders of Francis I., but it is safe to affirm that he was an innovator, because there exists no other type of architecture similar to the work he produced. To convince oneself of this it is sufficient to look at the very original aspect of the exterior, the beauty of the staircases and of the vaults which have been preserved, the majesty and the vastness of proportions of the salle des fêtes, called the Salle de Mars, where the great royal assemblies were held, as well as the festivals rendered so brilliant by the luxury and the elegance which distinguished the Court of the Valois. Henry II., like his father, was fond of Saint-Germain. Philibert Delorme changed the arrangements of the chapel, and Guillaume Marchant began to build the *Château Neuf*, whence an admirable view was afforded over the Seine valley. Of the *Château Neuf* nothing but a pavilion has been preserved, called the Henry II. Pavilion, which contains on the ground floor a curious hall of rustic architecture. In order to put the two buildings into easy communication, a door was made in the southern part of the *Vieux Château* building which was surmounted by a very fine piece of sculpture, now placed in the Louvre Museum, and which has been faithfully reproduced above the present entrance. The last Valois did not often stay at Saint-Germain so far as can be ascertained. Louis XIV. took refuge there during the Fronde, and there passed nearly all his youth. By his orders Jules Hardouin Mansart added to the castle five large pavilions which completely altered its exterior aspect. The beautiful and original order invented by the master of works of the Renaissance period doubtless

impressed the architect of the seventeenth century who imitated him—a very remarkable fact for that time. Balconies in wrought iron supported by rich consoles were run all round, and the patrole' beats of the Middle Ages were converted into terraces. The castle with its wings built in this manner covered double the former area, and the Court of a luxurious king with its numerous retinue was able to be in residence there. Assemblies were held in the Château, and it is there that were celebrated especially the feasts on the occasion of the christening of the Grand Dauphin, the exact representation of which is preserved to us in engravings of the period.

Being deserted for Versailles, Saint-Germain, since 1689, gave refuge to an unfortunate king. The family of the Stuarts received there the hospitality of Louis XIV. James II. died there in 1701, and his wife Marie d'Este in 1718.

From that time onward the *Vieux Château* only plays an historic part. Its magnificent Salle des Fêtes was sometimes used for theatrical performances. In 1803 it was proposed to establish a hospital with 800 beds there; later on a cavalry school was established in the building; then it became a military barrack and a military penitentiary. It was only in 1862 that the architect Eugene Millet started the work of restoration which is still going on. The museum of *National Antiquities*, which has been installed in the Castle of Saint-Germain, is a guarantee for the preservation of a monument precious on account of the memories it recalls and for the material traces that French art of the best periods has left there in spite of the alterations and mutilations.

On the motion of Mr. R. Phené Spiers, F.S.A., seconded by Signor Cantizzaro, and supported by Mr. E. W. Hudson and Colonel Lenox Prendergast, a vote of thanks was passed to M. Daumet by acclamation.

2.—METHOD FOR THE RECONSTRUCTION OF ARCHITECTURAL MONUMENTS BY METROPHOTOGRAPHY.

By M. MARCEL DE TOURNEAU, Architect with Government Diploma and Travelling Exhibitioner under the Board of Education and Fine Arts; Special Commissioner.

I. HISTORICAL RETROSPECT.

Metrophotography has been studied and created by Colonel Laussedat, a well-known French scientist, Membre de l'Institut, formerly Director of the National School of Arts and Crafts.

The method is now applied in every country in the world.

When photography was first discovered French savants foresaw the possibility of using it in the survey of monuments.

Arago, in particular, in the year 1839, foretold this use in communications to the Chamber of Deputies and to the Academy.

Jomard and Christie made geometrical drawings from views taken with the aid of the *camera lucida*, and published them in their great work on the Egyptian Expedition.

At length, in 1850, after improvements had been made in photographic apparatus, a photographic view of the church of Santa Maria delle Grazie at Milan was transformed from a perspective into a geometric drawing.

Since these achievements French architects and M. Lebon have often made use of the geometric properties of photographs for their personal requirements.

But work of this kind has never yet been carried out systematically and with special apparatus—at any rate in France.

In 1903, having been entrusted with a Government mission, I put myself in communication with Colonel Laussedat, and speedily became convinced of the advantages of metrophotography.

After remodelling my apparatus I made several journeys in 1903, 1904, and 1905 in Greece, Turkey, and Macedonia. I brought back from these journeys over 200 photographs measuring 13·18 cm. and dealing with some twenty buildings. I made geometrical plans of two churches, one of which was exhibited at the Salon in 1904, the other, a very important one, at the Salon of the present year.

II. ADVANTAGES OF METROPHOTOGRAPHY.

The following are some of the advantages of metrophotography: One obtains documents which are absolutely correct and incontestable, without any fear of errors of calculation, uninfluenced by the personal equation of the artist. The data can be checked at pleasure, since the negatives are always available.

One can accurately reconstruct even inaccessible monuments, either in whole or in part, by the use of different lenses.

The operations necessary on the spot are reduced to a minimum. It is sufficient to expose one's plates methodically, going all round the building. The remain-

ing operations can be performed wherever and whenever the artist pleases, and they may be carried out by an operator and a draughtsman with a knowledge of perspective.

III. EXPLANATION OF THE METHOD.

The method is based on the geometric properties of photographs of buildings taken in a suitable manner with instruments of precision.

These photographs present the monument which it is desired to "reconstruct" in perspective on a vertical picture plane. In order to carry out the "reconstruction" it is necessary to find the horizon line, the principal vanishing point, and the distance from the picture plane, and to note the actual dimensions of one of the objects represented.

It is easy to determine these elements by the use of well-made photographic apparatus; and a foot-rule will give the actual size of one of the objects in the picture.

Once these elements have been determined the true dimensions of the monument are easily arrived at by an inversion of laws of perspective.

IV. APPARATUS USED.

It is necessary to employ apparatus of precision which will give a flat image, absolutely vertical and free from distortion, and to mark on this image the horizon line and the distance from the picture plane.


My apparatus includes all these features. It consists of a wooden camera made to focus, size 13-18 cm., with a horizontal turn-table, mounted on a tripod with three adjusting screws.

It is provided with two levels in the shape of a cross, and each dark slide is marked with four points indicating the extremities of two lines at right angles to each other.

The displacements of the lens and dark slide can be measured by graduated scales and verniers.

The position of the nodal point is known in the case of each lens.

A special swing-back, which can be used when required, allows the camera to be inclined, and enables one to obtain conic perspectives which may serve as a basis for geometric "reconstructions."

This swing-back consists in the main of a frame shaped thus , screwed on to the stand. This frame carries on pivots two branches in the form of a cross forming a vertical plane. These receive the photographic camera.

The swing-back is arranged in such a manner that the axis of rotation is horizontal and parallel to the horizontal straight line formed by the intersection of the base-board and lens-front.

The angle of inclination can be read off by means of a movable pointer on a fixed circular scale.

V. THE USE OF THE APPARATUS.

System and method are all-important in the practice of metrophotography. Otherwise it will be impossible to

extract from each negative the factors necessary for its utilisation.

Each negative, therefore, must be registered with the following details:—

- (1) The number of the negative.
- (2) The number of the slide.
- (3) The focal length of the lenses used.
- (4) The extension of the camera.
- (5) and (6) The displacements of the lens.
- (7) The angle of inclination.
- (8) The horizontal angle of view in relation to the previous negative taken from the same point.
- (9) The stop used.
- (10) The length of the exposure.
- (11) The subject photographed, with various remarks.

The negative should be as good as possible both from the optical and the geometrical point of view.

For this reason the camera should be perfectly rigid and exactly horizontal.

The negatives should be full of detail, but not too full of contrast. In other words, they should be taken with a small stop and slightly over-exposed, so as to overcome the contrasts present in the monument photographed.

It is specially important that all details of interest should be secured, and that the negatives should form a perfect series, so that there may be no gaps in the survey of the monument.

VI. OBJECTIONS TO THE METHOD.

The photographic plate being an uneven surface, the negative obtained will show distortion.

The inequalities of the plate are—in relation to the focal distance (especially where long-focus lenses are used)—of such a character that the distortions of the image are infinitesimal.

Besides, absolutely smooth sensitive plates can be obtained by coating the glass with the sensitive emulsion.

The negative and the print vary in area from moment to moment.

This variation would, indeed, prevent a deduction of the true and fixed dimensions of the buildings if the element measured did not vary in the same proportion as the whole of the negative and the paper.

But this is not the case. The variations are proportional.

Consequently each print gives a perspective of variable area, it is true, but this allows one to "reconstruct" the true dimensions of the monument.

3. *Messbildverfahren (Photometry).*

A Paper on this subject, presented by Professor Meydenbauer, of Berlin, will appear in the *Compte-Rendu*.

I. THE TOMB OF AGAMEMNON.

By CECIL SMITH.

Friday Evening, 20th July.—Grafton Galleries.

Chairmen: Messrs. R. Phené Spiers (England) and Alexander Wielemans (Austria).

Hon. Secretaries: Alcide Chassé (Canada) and Hippolyte J. Blane (Scotland).

Mr. Cecil Smith's Paper contained an account, illustrated with lantern slides, of the "Treasury of Atreus" or "Tomb of Agamemnon" at Mycenæ, the columns from the doorway of which have recently been restored and set up in the British Museum.

This building is the most famous of the so-called "Treasures" or "beehive tombs" characteristic of the Mycenaean age in Greece, of which examples have been discovered, not only at Mycenæ itself, but at Menidi and Spata in Attica, and at Orchomenos in

Basotia. They consist of a subterranean chamber of dome or beehive form, approached by a broad passage-way open to the sky, intended both as a tomb and also as a shrine at which posterity would pay semi-divine honours to the dead. For this reason special attention was paid to the decoration of the doorway: that of the Treasury of Atreus was enriched with elaborate mouldings, with an engaged semi-column on either side, sculptured with patterns in relief, and above with a richly sculptured façade, of which only small fragments now remain.

In 1811-12 the second Marquis of Sligo visited the Morea, at a time when Veli Pasha was making excavations in the district of Argos and Mycenæ; at the Treasury of Atreus he seems to have found portions of the shafts of two columns only, which were presented to Lord Sligo and transported to Westport, county Mayo. Each shaft was originally constructed in two halves; three such half-columns were acquired by Lord Sligo; the fourth was formerly built into a Turkish mosque at Nauplia, and is now set up in the National Museum at Athens. The Westport blocks were recently identified mainly through inquiries set on foot by the Earl of Altamont, and were last year presented by the present Marquis of Sligo to the British Museum.

The original bases remain *in situ*, and are represented in the Museum by facsimiles in breccia. As the two columns are not identical in dimensions, it has been possible from this fact and a study of the existing examples to assign every fragment to its place. The Museum originals have been combined with casts of the portions existing at Athens, Berlin, and Karlsruhe, so that with very little restoration it has been possible to reconstruct the entire shafts. Of the capitals, similarly, fragments exist at Athens and elsewhere, enabling a restoration to be made which is approximately accurate; and here, again, the slight difference in dimension, together with the fact that the horizontal band of pattern decorating the echinus runs in different directions in the two capitals, afforded positive evidence for the attribution of all the fragments.

A striking peculiarity of these columns is the downward taper of the shaft, which is two inches less in diameter at the base than at the summit. This feature is found commonly in the Minoan period in Crete, and possibly is

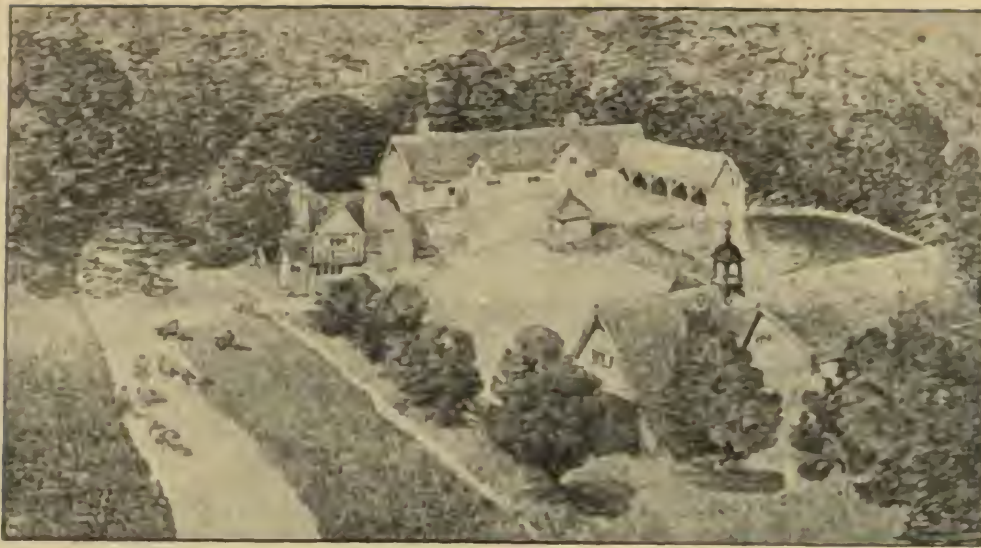
due to certain structural necessities of columns constructed in wood, which are here translated direct into stone. In the present case the downward taper of the column serves to correct the outward slope of the sides of the doorway which they decorate. The decoration of the shaft is probably of Egyptian origin, and may be compared with that on part of a column found at Tell el Amarna. The decoration of the echinus may be paralleled in the series of Doric capitals at Paestum.

The decoration of the façade above the doorway is a problem of great difficulty, as no single fragment remains in position, and only fragments have come down to us which are conjecturally assigned to this part of the building. There seems to be justification for assuming a revetment of sculptured slabs, and possibly the triangular niche was filled with a sculptured group of two lions, as over the gateway of the town of Mycenæ, but the disposition of the ornament is matter of conjecture.

Mr. Cecil Smith concluded by showing on the screen a series of the different restorations proposed, concluding with the most recent one, drawn by Mr. Phené Spiers, in which the newly reconstructed columns have been incorporated.

In the discussion which ensued, the following took part: Sir Henry Howorth, Professor Baldwin Brown, Mr. J. D. Grace, Mr. R. Phené Spiers. On the motion of Mr. H. H. Statham, seconded by Mr. F. T. Baggallay, a vote of thanks was passed by acclamation to Mr. Cecil Smith, and briefly responded to.

At the conclusion of the meeting on Wednesday evening, 18th July, in the Institute Meeting-room, M. J. J. Caluwaers made a communication respecting the purchase and restoration of the house in which Rubens lived at Antwerp, and which was largely designed by Rubens. M. Caluwaers stated that an influential committee, including M. Henri Blomme (architect and member of the Commission Royale des Monuments), had been formed with the object of purchasing and securing the house, with which he desired the Congress to express its sympathy.



MODEL FARM IN SILESIA
Drawn by Edmund L. Wratten, from a water-colour sketch by George Devey.

GEORGE DEVEY, F.R.I.B.A. (*b.* 1820 ; *d.* 1886).

A BIOGRAPHICAL ESSAY.

[SUBMITTED UNDER MOTTO "TERRA INCOGNITA" AND AWARDED THE INSTITUTE SILVER MEDAL AND PRIZE
 OF TWENTY-FIVE GUINEAS 1906.]

By WALTER HINDES GODFREY.

THE eminence of the subject of a biographical essay may in some large measure counter-balance and atone for that lack of information, and paucity of detail regarding his personal life, which is inevitable in the case of so modest a man as the late George Devey. His was a life lived for the pure joy of his work ; his was an artist's hand and an artist's heart, sensible only to the things which were akin to his own ideals, and quite unregardful of that which constitutes often the sole interest in men's lives. And this, the great characteristic of the man, may be regarded either as a part cause or as an effect of his extraordinary perfection of taste and refined judgment ; for all who know his work are unanimous in their admiration of the skill by which he attained a golden mean between rich and fertile powers of invention and a sincere and devoted love of "early work." Yet, however much we may praise the man's work and the wonderful powers exercised in his profession, we cannot but be haunted always by the beauty of his own personality and the strange attraction of his manner ; indeed, just as it has been said of the great German authors of the eighteenth century, that though their works were surpassing in greatness yet they themselves were greater than their works, and that the friendship alone of Goethe and Schiller exceeded in beauty even the transcendent beauty of their writings, so it may be said of George Devey that the charm of the creations of his mind was not only mirrored in

NOTE.—The illustrations to this Essay are purposely of such a character as merely to convey a slight idea of the grouping of the buildings, since it is next to impossible to represent the beauty of Devey's detail work other than by photography.—W. H. G.

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his person, but was even rivalled therein. Though his death occurred as many as twenty years ago, his memory lives vividly among all those who came in contact with him; and while his fame among the younger generation must ever chiefly rest in the examples which as an architect he has left for us, yet no acknowledgment can be so sincere or so devoted as the homage paid to his memory by those of his friends who still remain.

But George Devey left practically nothing himself to remind us of so engaging a personality, and most of the friends of his own generation, including his near relatives, have since passed away. Of personal matters, therefore, we can give little that is definite or that bears any direct or logical sequence, and in the sphere of his more public duties as an architect our power is also much circumscribed. Unwished to seek a wider circle of friends than his own tastes and the sympathies which they aroused naturally formed for him, he was equally careless of making his work widely known, of publishing it as it was done, or of even keeping the barest records of its extent and nature. It was enough that he lived amidst his work; and the activity it brought him, combined with the intercourse with people of kindred taste and high refinement, was food and drink to him until his death. But his work remains, gaining the beauty that adds itself to beauty with every passing year; and it must be to an intimate knowledge of this, acquired from his own inimitable drawings and from actual photographs, together with the information derived from many an interview with men who have known him, that the present author attempts, not indeed a full and ponderous biography, but some definite characterisation of the man and his work.

George Devey was born in the year 1820 in the north of London. He had one brother, Frederick, and a sister, Emma, who survived him, but are both since dead. His father, Frederick Devey, was a solicitor, a man of ability and of a high-minded nature, to whose persistent and successful efforts (quite disinterested) in following up and substantiating the claim of a friend to certain properties, his son is said to have owed his first introduction to distinguished patronage, benefiting by the gratitude which his father had inspired. It may be not uninteresting to observe that his grandfather on the maternal side was Mr. Durs Egg,* gunmaker to George IV., a Swiss by birth, who came from Basle, and was one of the many participators in the invention and perfecting of the percussion cap. The family moved to Ely Place, Holborn, to allow the boys an easier access to King's College, where they were at school; and later they resided at a house on Ealing Common. At school or soon after, George Devey made the acquaintance of Mr. Couttes Stone (the father of Mr. Percy Stone, architect), and contracted a friendship with him which lasted through life. Together they were articled to Mr. Little, "surveyor"—as many architects then modestly styled themselves—and George Devey rapidly acquired a proficiency that enabled him to superintend the principal works in hand, including St. Mark's, Primrose Hill. Mr. Stone and he travelled together in Italy and Greece, and some most charming pencil sketches in Venice, and tinted drawings of the Acropolis at Athens, are a witness to his industry and early artistic powers. With regard to the deftness and exceptional excellence of his colour work, it must be remembered that his early ambition was to become an artist rather than an architect, and that for this purpose he studied under two men of no less fame than John Sell Cotman and J. D. Harding. And this was not merely an ideal of his life, as it often has to remain among so many architects where pressing business gives little opportunity for wider scope, but was rendered possible and attainable by him on account of his own great abilities and the undoubtedly fortunate connections which he formed, and which fostered all that was best in his talent.

* The name of Mr. Durs Egg occurs constantly in the well-known book entitled *Instructions to Young Sports-*

men, &c. (3rd ed. 1824) by Colonel Peter Hawker, who testifies to his extraordinary skill and ingenuity.

No one on looking through the hundreds of exquisite drawings that remain to us will dispute his claim to the rank of an artist, and of an artist of no mean degree. Such facile productions of his pencil and brush are an ever-increasing delight to the lover of art, and are a revelation to the architect by their wonderful treatment of the simplest subjects.

It is not quite certain when George Devey started practice for himself. It was, however, some time in the forties; and it was in recognition of something over ten years' work that he became a Fellow of the Royal Institute in 1856. Certain carefully drawn elevations of Penshurst Place, showing a large number of minor alterations, signed by himself and dated 1851, point to his first important work and his first distinguished patron. The then Lord De l'Isle (father of the present owner of the title) was, as is well known, actively engaged on many improvements to his castle at Penshurst, and Devey's intimate knowledge of the character of old work and his enthusiastic desire to perpetuate its spirit made him just the right man to carry on the alterations; and no small measure of the beautiful appearance of Penshurst Place as it stands now, foremost among the examples of its period, is due to the knowledge and skill expended by the young architect in removing what was inconsistent and out of place and restoring such parts to their original harmonious form. Many internal conveniences were devised, and the delightful and spacious gardens were planned and laid out under his direction.

But this was not all. It is not the 'Place' alone at Penshurst that has benefited so much from treatment at a master's hand. The countryside received an added beauty from the many delightful cottages designed and executed then—cottages which reproduced in themselves all the charming features of half-timber work and stone, red brick and plaster, which are the very soul of the rural architecture of Kent, and withal wrought together in so quaint and so natural a way that it is no wonder they have frequently been sketched and photographed as genuine products of antiquity. Devey was always a master of cottage design even from the earliest days of his practice; numberless are the drawings and sketches, done with infinite care by his own hand, of the lodges and cottages which bordered those large estates with which he had later to deal. Never did he actually reproduce an early example, but his knowledge of the whole "method of relation," as it were, of part to part, and part to whole; his knowledge of the shapes and forms of all accessories and of their proper use; and above all his simple methods of planning secured to him the possibility of producing with almost the naïveté of an untaught hand those perfectly consistent examples of cottage architecture which appeal at once to every lover of the English village. His knowledge of chimney-stacks and all their apparently wilful vagaries of form will be evident to anyone who glances through the slight sketches which are contained in three portfolios in the Library of the Royal Institute of British Architects, and his observation is as minute regarding the terminal finish, whether it be pot or stone slab, as it is regarding the "set-offs" and massive base that suggest the spacious chimney-corner within.

It is not, of course, for a moment contended that Mr. Devey even attempted to solve the problem of the cheap cottage. Happily he lived before our day, and his work was generally with local materials, unrestrained by considerations of cost, or of the perhaps worse regulations of local authorities. But given a free hand he seldom went astray; nor admitted, for the sake of novelty or ornament, anything but that which was quite in keeping with the best of the old work. And here, since it has become so much the modern custom to decry adherence to old traditions, and label as weak the use of nothing but old forms, it seems necessary and advisable to defend the contrary opinion. George Devey's work was frankly and avowedly controlled by the best in English domestic architecture as practised in the seventeenth and sixteenth centuries, and even earlier; and it is quite possible to submit that this is its

chief glory. Our remarks shall be brief on this point, but as far as possible clear and definite.

The whole question of styles in architecture, and their importance to us, has been given a wrong bearing through a total misapprehension of the true facts regarding the growth of a style. The materialistic school of modern criticism, which has reached its most absurd pitch in Germany (the home of the "higher criticism" and the destructive criticism of Homer, &c.), endeavours to delete the idealistic forces from the "scientific" chart, and considers everything explained by the chance synchronism of things, or their ordered "evolution" from one another. In such essential matters of life as art, war, politics, religion, quite the reverse is the case. When by some great output of energy—often the outcome of a special crisis—a nation spontaneously rises to a high degree of efficiency and strength, then men are greater than they were before, then they are capable of producing art in its greatest form. Such were the times of Greek art and the Renaissance. The spirit of the time made the men artists; it also by its intensity and homogeneity set its own impress on all that was produced and gave to every work of art a certain relation with its fellow, a nature which displayed a common parentage. To dream that in times of comparative little-mindedness a man, by "willing" it so, can rise to the creation of a new style is the symptom of a folly that can scarcely be excused even on account of its extreme ignorance. But although the individual artist cannot create an entirely new style without the greater inspiration of a national impulse, yet men's powers of appreciation are so keen, their sympathies are so susceptible, and the products of great periods are so plentiful, that with careful observation and enthusiastic study of their characteristics he may find himself able to understand something of their methods, and may find his own soul expanding with their spirit, along the lines so long ago laid down. In this way the Renaissance is still "renascent," and the more the artist is of that spirit, the more closely will his work appear to come to the products of that time, should he never consciously "copy" even a single line. It is thus that George Devey was able to build such beautiful mansions as Goldings, Hertford; Hall Place, Tonbridge; and Killarney House, Killarney—which seem almost to rank with Hatfield and Knowle—and was able also to raise, with an almost unerring hand, the smallest cottages, clothed as truly as the greater work with the charm and loveliness of the English "re-birth of art."

This digression seemed necessary to justify George Devey's steadfast adherence to early detail, and as such is a point of great importance to his biographer. There is another matter of nearer interest to his personal life which must not be omitted while we remain in the precincts of Penshurst.

It is often urged by those who are sensitive to the public gaze, and who think that the sacredness of private life depends alone upon its privacy, that those who write of public men have no business to trespass upon the grounds which are too intimate with the heart and feelings, and should confine themselves to that side which has most to do with their life's work. But, however this may be in the case of other walks of life, it is quite impossible to distinguish between these two sides of an artist. Indeed an artist worthy the name does not possess two sides: his nature is rounded and complete; he is *himself*, and nothing that he says or that he does, nothing that he conceives or that he creates, is apart from that fulness of nature which has made him and keeps him an artist. The culture and refinement which George Devey expressed so signally in his work were evident even more plainly in the charm and grace of his personal manner; the enthusiasm too which he displayed in his profession, and in all connected with it, had its counterpart in the strength of his friendship and devoted attachment to those he made his friends. And reaching forward to higher things still, the singleheartedness of his ideals as an artist may be said to express but the same thing as the

attachment which he formed early in life, and which, though unsuccessful, he guarded with tenderness till the end. He was never married. He loved the daughter of the vicar of a village in this same sunny county of Kent, and though his love did not obtain the fulness of its desire he gained the very deepest admiration and esteem in the thoughts of one who always remained his friend. He cherished her memory after her marriage into a prominent family of the district, and later in life, when she was widowed, he offered her again the devotion of the life that remained to him. Through certain divergences, however, in their trend of opinion, Fortune contrived that Mr. Devey should be still preferred as a friend rather than a nearer companion, and so to the end he lived his life alone. His death brought one more touching acknowledgment of his affection, for in his will he left a considerable legacy to her whom he wished to have made his wife, and added the provision that should she refuse its

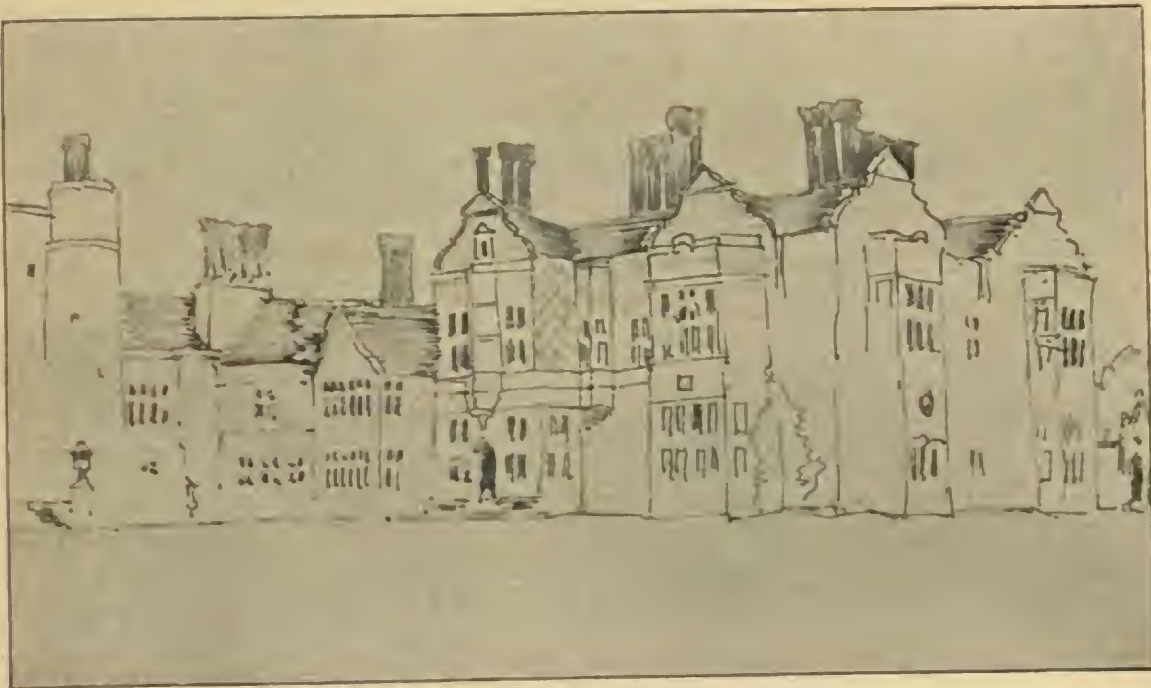


FIG. 1.—PETTERWANGEL.

acceptance it was to be pressed upon her son ! Nothing more eloquent can be said than the simple relation of this generous sentiment, and of this constant cherishing of an ideal that remained for ever untarnished. Such indeed was the nature of George Devey ; and since it is well known that the production of beauty as well as the perception and understanding of the beautiful are often inspired by personal suffering, we cannot be wrong in seeing in some of the charming creations of his art the reflex of that sacrifice which a cherished ideal had demanded.

For some time Devey's practice remained within modest bounds, for with a certain refreshing wilfulness he would never seek patronage, and had the greatest aversion from undertaking any work that was not to his taste. By the year 1867, however, the first year of which we have complete records of the work in his office, we find him engaged upon many important works. It will be perhaps most interesting to follow him along the path of his

business life, and as opportunity offers to comment upon himself and his friends. At this time his office was at 16 Great Marlborough Street, W.

Mr. Percy Stone (the son of Mr. Devey's friend) alludes to the house at Betteshanger, Kent, then in progress for Lord Northbourne, in his brief obituary notice of Devey in the R.I.B.A. PROCEEDINGS of 1887. Mr. Stone says that the use here of the Dutch gable was the precursor of that general movement in domestic architecture which has become more specially associated perhaps with the name of Mr. Norman Shaw, and, by placing the commencement of the work at Betteshanger as early as 1856, he considers that Devey had much to do with the introduction of the style which happily became general in the last decades of the nineteenth century. It is indeed a great tribute to his discernment, taste, and skilful judgment that he should see the beauty in the earlier styles and seek to reproduce them at the time when a barren classicism was in vogue and was about to die a hard death. The house at Betteshanger is a very typical example of the happy way in which an old building was increased



FIG. 2.—COTTAGE, BETTESHANGER.

and altered to produce comfort within and a dignified appearance without. The main rooms were enlarged by the addition of spacious bays, and the gables all carried up in brickwork in true Dutch fashion. The main portion is square in plan, having two or three gables on each front, and tall stacks of chimneys with flues set anglewise. A long low wing is built out from this and is terminated by a tall square building which forms a tower. This disposition of buildings was a favourite one with Devey, and much of his characteristic ornament is here displayed, such as sunk stone medallions with busts, in the wall, and chequer-work of dark and light bricks. The windows

are of stone and are somewhat heavy for the type of work. The gardens at Betteshanger are very beautiful, and owe not a little to Devey's skill, especially in regard to gateways, terrace walls, and other accessory features. A charming cottage of stone and brick with the first floor of half-timber work cannot be passed over. The little oriel in the gable and the diminutive roof over the oven are features he delighted in. The chimney-stack is finished in brickwork.

A house at Akeley Wood, Buckinghamshire, shows us a rather more elaborate effort in half timber, the chimney stacks, plinths, &c. alone being in stone. Here there was ample scope for bays, oriels, overhanging stories, and gables which are the most luring features of the style. The timber is chiefly plain vertical work, but more than one wall and most of the gables are treated with quatrefoils in panels. The house was built for Mr. Pilgrim, a keen sportsman and lover of country life. To such men as he, Devey had some subtle attraction, for he himself was well versed in many of the subjects specially interesting to the country gentleman. His knowledge of whips, harness, and all the requirements and specialities of the stable was little short of that of an expert, and he could have made without any hesitation

working drawings of carriages or coaches, so perfectly did he know their "build" and how to judge them. No branch of knowledge where taste, skill, and judgment were specially required seemed to escape his investigation, and this fact explains the confident way in which many of his clients, and particularly the late Lord Granville, were wont to consult his advice on every possible subject.

Among other works in 1867 was a house at Wilcote, Oxfordshire, of which Mr. Devey has left one of his most delightful watercolour drawings; and so charming is the sketch that it would be difficult to say which were the greater work of art—that of stone in its complete and practical form, or that on paper with its infinite suggestiveness of tone and colour. As is the case with the large majority of the drawings in colour, this is a simple elevation of the garden front, which is composed of five gables, flanked on the left by low outbuildings, and on the right by a deep circular bay. The garden entrance, which is recessed between two bays,



FIG. 2.—WILCOTE.—FROM A SKETCH ELEVATION BY GEO. DEVEY.

possesses a charming little balcony above, and this again, with the adjoining bay, is surmounted by a balustrade. But though the composition is perfect, the colouring is even more delightful, the stone of which the house is built being beautifully indicated, and the whole modelling of the building suggested in a masterly manner. The fine oak tree in the foreground, which hides a part of the lower roof and shelters the archway and carriage drive, is one among a number of most exquisite studies of trees and foliage. This is another point which tends to confirm one's conviction that Devey's life was one of intense idealism which was unable to express anything else but the entirely beautiful whenever his pen or brush touched paper. That such genius should have been directed into the paths of architecture was a happy fortune for our own art; and wherever it had the fullest scope, and was faithfully interpreted, it has resulted in such examples as we could ill afford to have lost. Nevertheless it is no disparagement of Devey's skill as an architect, to seek to emphasise the greatness of his power in those spheres which are so often dissociated from the practical and applied arts. With the fewest touches of his pencil and a broad wash of light colour he could place upon paper a perfect representation of such trees as one would love to move beneath and enjoy

their shade; and yet, when the drawing is examined, it is all pure suggestion, the representation, as it were, of an idea unfettered by the restrictions of any material medium.

Another beautiful drawing of this period is of a house for E. Hooper, Esq., at Newport, Monmouthshire, showing a building largely remodelled and increased. The work was not carried out entirely in accordance with this sketch, but the main idea, forming a very picturesque composition, was executed. The trees, verandas, and the suggested garden treatment in the foreground are all shown in the sketch in Mr. Devey's own inimitable manner.

It is quite impossible to do more than notice here and there the numerous lesser works which were going on at the various periods of which we shall speak. Of 1867 perhaps the thatched cottages and lodges at Fonthill for A. Morrison, Esq., deserve special mention, as they seem all to have had a very peculiar beauty of their own. Stone, as usual, forms the ground floor, and timber, plaster, and weather-tiling the first floor and gables. Some thatched lodges for Baron Meyer de Rothschild at Mentmore, of the same period, indicate similar characteristics.



FIG. 1.—COTTAGE, FONTHILL.

From 1867 almost to the last year of Mr. Devey's life there was continual work being done at St. Alban's Court, Kent, and by many this is held to be one of the most completely charming houses of his design. Perhaps the fact that the owner, W. O. Hammond, Esq., was an artist himself and a great admirer of his architect's ability may partly account for the success which attended all the work here. A very large number of cottages, of all sizes and of every description, were erected

on the estate, in which the local stone, worked in with brick, was largely used. The bedroom floor of the cottages was in most cases half timbered and overhung the lower story in every variety of manner.

Even before the commencement of St. Alban's Court another warm admirer of Mr. Devey came forward to give him perhaps wider scope for his abilities than Mr. Hammond. This was Bertram W. Currie, Esq., whose country seat was at Minley, in Hampshire. Both he and his brother (the late Lord Currie) were clients of Mr. Devey's, and the work done for the former at Coombe Warren (Kingston), Minley, and Richmond Terrace (London) is amongst the best known of his undertakings, due, no doubt, to their comparative proximity to London and to the excellent photographs taken by Mr. Bedford Lemere. It is not generally known that the first house which Mr. Devey built for Mr. Currie at Coombe was burnt down soon after completion, thus necessitating the erection of the present building. The earlier design was far less ambitious than the later, but had all the distinctive charm of an Elizabethan house, with brick angle chimneys, and gables at square pitch with moulded barge boards. There were three gables on the garden side: the one on the left, finished with plain plaster



FIG. 3.—ST. ALBANS COURT.

and surmounting a large square bay that reached the full height of the two stories ; the one on the right weather-tiled with a deep oriel which had a separate roof and curved soffit. Between these the third gable, also plastered, was well set back, and the whole flanked on both sides with fine stacks. The house was built of roughly coursed stone some six feet from the ground, then brickwork, with the bays and gables in smooth cement plaster or weather tiling. A square tower behind a wide projecting and overhanging bay further to the left made a most charming composition with an alcove which was recessed in the garden wall and was surmounted by a gable with ornamental panel. Any description must give a most imperfect idea of the *tout ensemble* of this beautiful piece of domestic architecture, and we should be inclined to regret very deeply its untimely destruction were it not that it gave place to a more elaborate and in many ways more striking building, of quite different treatment, but most delightful to look upon.

The present building is so well known that its illustration is unnecessary ; but some description of it is needful to show yet another phase of Devey's versatile genius. Taking, in part, the same plan as the earlier house, it retains the stone base to some six feet in height ; but, instead of the brickwork being capped by overhanging eaves and gables with barge boards, it is carried up into Dutch gables of most charming design, and the bays are finished with a bold embattled parapet. The design of these gables, their grouping, and association with tall and beautifully proportioned chimney-stacks, is an extraordinary effort ; and while it cannot fail to strike any person of taste as exceedingly beautiful, it appeals in quite a unique way to the architect who loves the picturesque sky-line of a really well grouped mass of brickwork. Every device, too, is added to give charm, and yet is never in the least overdone. The garden front presents from right to left, or left to right, an infinite variety of beauty. The main portion, standing well forward, is crowned by three Dutch gables, whose shape is said to have been inspired by those of that charming Fairfax House that stood till lately in Putney, a photograph of which Devey had in his office, but which is quite surpassed, in the writer's



FIG. 6.—FIRST HOUSE, COOMBE WARREN.

opinion, by the work at Coombe Warren. This main block is supported at the angles by brick quoins, and the face is ornamented by intersecting lines of dark headers, and niches with stone figures, vases, and medallions. On the left is a heavy semicircular bay, but on the right the building recedes, and in the curve there break forward three wide bay windows of brick and

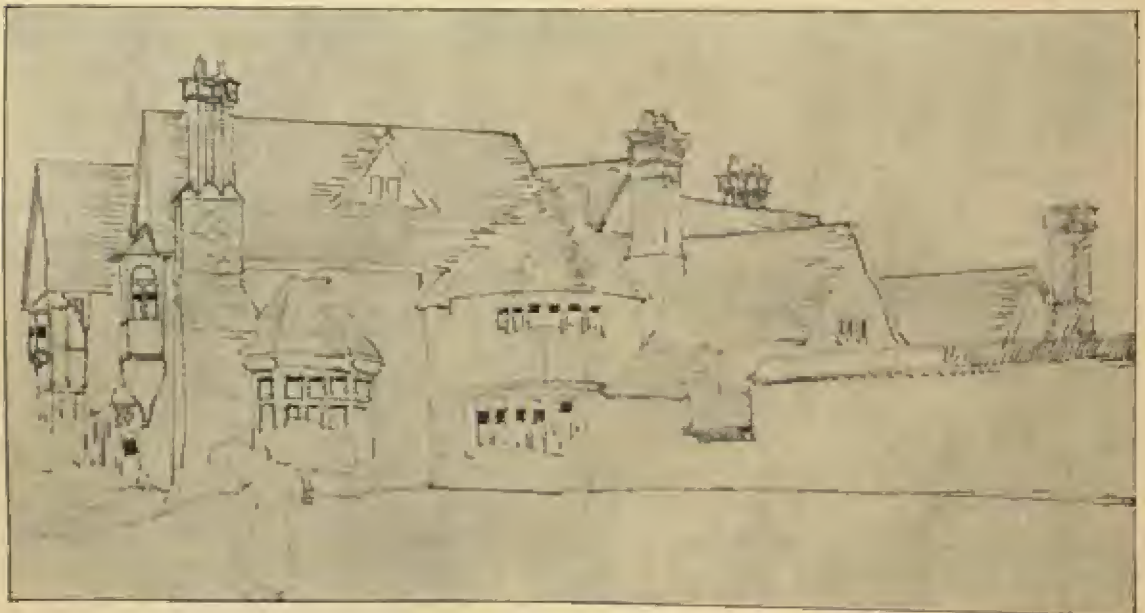


FIG. 7.—FIRST HOUSE, COOMBE WARREN.

stone. Thereupon the treatment entirely changes, and after passing a veranda and arched balcony the brick gives way to a long overhanging story of plaster, and the gables, now timbered, resume their barge boards, and the long façade ends in a lofty stack of chimneys. It would be a fascinating study to take this building in detail and study each part, internal and external, marvelling as one went at the unflinching taste and wondrous skill that gave it birth; for although there are many men who have produced larger works, on a more stupendous scale, and calculated to inspire a sense of awe and grandeur, yet few have grasped the full meaning, the very essence of our own English Renaissance so completely as to give the pure delight which George Devey can bestow upon us. But space will not allow this licence, and we must leave Coombe Warren with a last word about the gardens. The accompanying sketch, by Mr. E. L. Wratten, shows the end elevation of the orangery, which is of brick and stone, with pilasters of rubbed red brick. An octagonal bay house of red and stock bricks and a circular temple of stone, in which is a bust of Gladstone, together with the stone balustrading to the terraces, form the chief attractions. The gateway on the left of the sketch gives a good idea of the beauty of the garden work which is very elaborate here and at Minley. The house at Minley was not designed by Devey, as has been often erroneously stated. It was built from the plans of Henry Clutton, but Devey made a very large number of alterations and additions, especially in the internal arrangement, adding the chapel and cloisters, the orangery and the stables. It is of great interest to the student of Devey's work to follow him in all the modifications and enlargements by which he converted a somewhat mediocre plan into one of genuine usefulness and beauty. Working in surroundings that were certainly contrary to his taste, he nevertheless showed great skill in adapting his own design to suit the style of the existing building; and all the work which he executed in its immediate vicinity—while immeasurably better than the house—is far from striking a perceptible note of discord. Following his usual practice he "opened out" the close planning of his predecessor, adding bay windows and using the curved line on plan with customary freedom. He enlarged the hall, built a new vestibule and porch, and connected the house by cloisters and covered ways to the new orangery which bounds one side of a large walled-in garden. This orangery, with the terraces and other garden features, is very delightful, but the *pièce de résistance* is undoubtedly the private chapel, which is of beautiful proportions. The original design for the chapel, which terminates in a semi-octagon, was, if anything, more beautiful than that which was ultimately executed. The boldness of its buttresses with their rich niches and saints, the delicate proportions of the arcading, the lofty roof and charming *flèche*, give a very sumptuous effect. The present building keeps the original proportions, but substitutes plain cinquefoils for the arcading and dispenses with the niches altogether. With the exception of the chapel, the external work at



FIG. 8.—THE ORANGERY, COOMBE WARREN, FROM A DRAWING BY EDMUND L. WRATTEN.

Minley must be considered as conditioned by the surroundings, and not a pure example of the architect's most characteristic style.

At Cliveden, which was formerly the Duke of Sutherland's river seat, there are some very delightful lodges, both thatched and tiled, some of which are to be seen nestling beneath

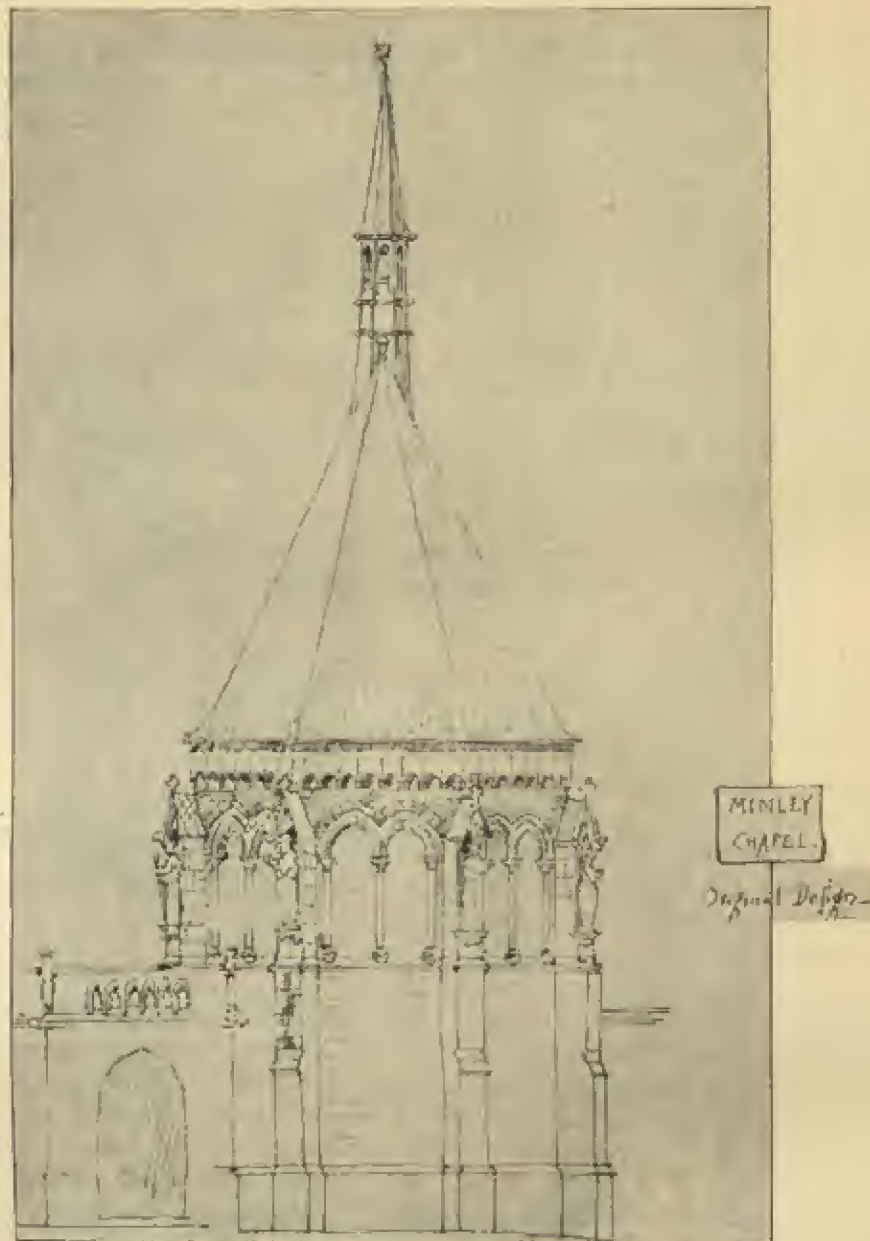


FIG. 3.—MINLEY CHAPEL, ORTHOGONAL VIEW.

the wealth of foliage that hangs over the Thames. For the same client Devey undertook various works in the village of Strathpeffer, N.B., and his drawing of the hamlet with the hills around it, forming a wide panoramic view, was reproduced to form a most excellent

lithograph. His drawing of all the existing buildings of the countryside is very careful and exact; the original sketches which he made for this purpose have been preserved and are of great interest.

The use of the Dutch gable is to be seen in a most successful manner at a large house at Brantingham, Yorkshire, which was entirely remodelled for the late Christopher Sykes, Esq. The treatment of this house, which is entirely of stone, is of marked simplicity, and differs widely from such a building as Coombe Warren. Here uniformity and regularity rule the design, and the proportions, which are long and low, appear delightfully fitting amid most beautiful surroundings. The house is on the slope of a hill, the drive entering under a bower of trees and a fine archway into a levelled courtyard with retaining walls. This overlooks a long garden, with symmetrical beds of flowers, which again has its own terrace walls with frequent piers and stone vases. The front of the house, which extends some distance,

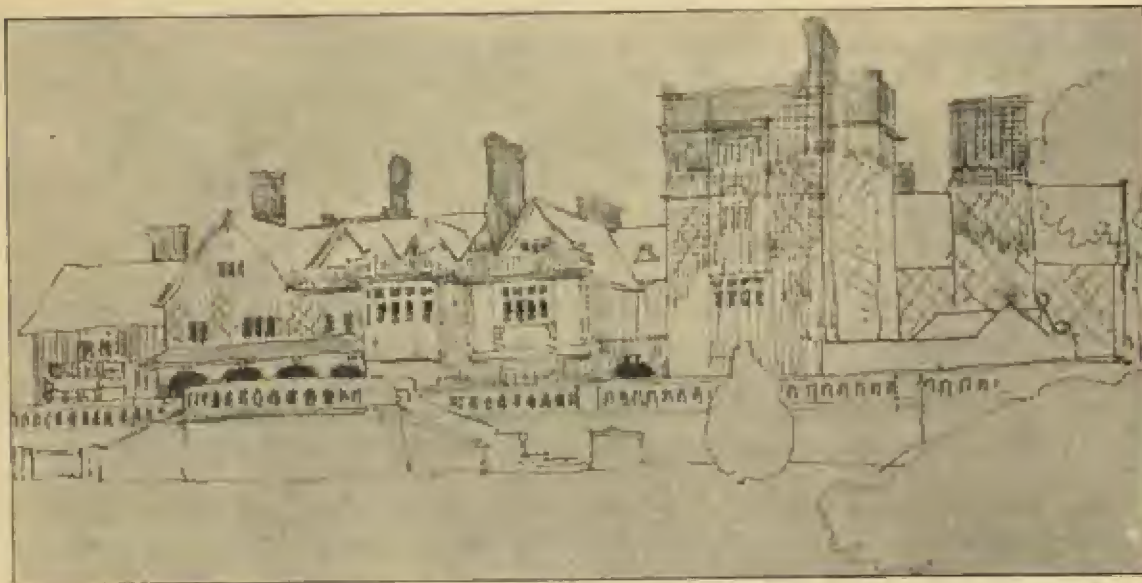


FIG. 10.—COOMBE COTTAGE, WHERE QUEEN VICTORIA SEVERAL TIMES VISITED THE EMPRESS EUGÉNIE, TO WHOM THE HOUSE WAS LOANED BY LORD REVELSTOCKE.

possesses two wings at its extremities and two projecting blocks in the centre, each with a fine gable of Dutch design. The building is of two stories, with stone windows, chiefly of two lights, divided by transoms, and all ranging with one another. Above a good cornice runs round the entire building at the foot of the gables, between which is a long and charming balustrade. The whole appearance suggests a most delightful reticence and control, and possesses eminently that quality of restfulness which is the reward of such architectural moderation.

Coming now to the year 1870, and passing over a large house for Hy. Cazenove, Esq., The Lilleys, Aylesbury, and a charming example in the style of the earlier house at Coombe Warren, for Neville Ward, Esq.—Calverley Grange, Tunbridge Wells—we reach another building near Kingston, adjoining Mr. Currie's house. This is Coombe Cottage, built for Edward Baring, Esq., who became first Lord Revelstoke, and is a very considerable work, embracing many of the best qualities of Mr. Devey's design. The garden front which opens on to a wide terrace, with a beautiful pierced terrace wall and steps, after the manner of Haddon, consists

of a massive brick tower ornamented with diagonal lines of dark headers, four stories high, and a long two-story building extending to the left with four gables. To the right of the tower is another extension with a very large stack of chimneys. Projecting oriels give the opportunity of carrying a balustrade in front of three of the gables; and as these are treated in white stucco, they form a pleasing relief to the dark brickwork—an effect further enhanced by the terrace walls, which are of stone. Although Devey had, here as in many other cases, to incorporate the old work with the new, yet he had such skill in the disposition of his masses of brickwork or stone, in their relation to the lower buildings (which invariably received lighter treatment), that the effect never fails to be pleasing. The entrance front of Coombe Cottage presents an even more varied aspect than the one just described, having a succession of gables and chimney-stacks arranged in a delightful manner. The entrance porch stands by the side of another smaller tower which boldly traverses the sky-line. Several of the gables are covered with dark weather boarding, one being particularly happy in having a bay with two miniature twin gables, which thus form a group of three. This feature is also to be found at Ascott. We have hitherto confined ourselves to the exterior aspects of George Devey's work, but the two houses at Coombe call to mind very vividly all the wonderful taste and knowledge which was displayed in every detail of internal arrangement and decoration. It is not necessary to remind the student of architecture that any solid reputation which an architect wishes to obtain must be based primarily upon his planning, since in his knowledge of this fundamental part of his profession lie concealed all the possibilities of his art. But planning is so technical a business that it is difficult to discuss it in a purely general review of a man's work; and although we shall have occasion to call attention to some characteristics of Devey's methods in one or two of his greatest efforts, we cannot go thoroughly into the details of the subject here. Suffice it to say that there is scarcely a plan which we have had the privilege of examining that does not display a complete mastery of the subject, and more than this, in that each one is a revelation of the possibilities of its own peculiar case, a treatment of striking individuality and of indisputable charm.

But there are many men who can plan well, but who have not the deft treatment of internal detail which George Devey showed in the highest degree. The very best work of Elizabethan and Jacobean times furnished the models, and the expenditure was lavish enough to enable the new work to be a worthy rival of the old. The reception hall or saloon at Coombe Warren is panelled in oak, in panels of square proportions, and those in the drawing-room are arranged specially to frame the valuable oil paintings that Mr. Currie had collected. The staircase is separated from the saloon by four arches with elaborate columns and pilasters, the bases of which, to the height of some three feet, are themselves fluted pilasters of free Ionic design. The main pilaster is long and graceful with carving in relief such as is to be seen in the panelled room at South Kensington Museum from the Palace at Bromley-by-Bow. The balustrade is formed of the diminutive arcade of arches so common in Jacobean work, and here carried out with a charming refinement of detail. The ceiling is in plain square panels of plaster with moulded oak ribs. To this room, most delightfully furnished by Mr. Currie, the oak chimney-piece is the chief ornament. No one understood better than Mr. Devey all the possibilities of the chimney-piece as a feature of internal decoration. Both in the style of the sixteenth and seventeenth centuries, in which he was particularly at home, and in the later style of the eighteenth he has left us some magnificent designs; and some of each were done for Mr. Currie, the one at Coombe, the other at his house in Richmond Terrace.

To return to Coombe Cottage, the staircase here is exceedingly effective in appearance, with massive newels and twisted balusters; but though the balusters follow a type of later

date than was usual with him, the panelling remains true to the early seventeenth century. This is an inconsistency that proves Devey to have been no slave of style, but rather an apt master in interpreting the spirit of the great times that had passed away. Many beautiful chimney-pieces here of most elaborate workmanship would detain us had we space for description, but must be reserved for another place and time, when every portion of the work can receive some just appreciation.

Adjoining Coombe Cottage is the dairy, a separate building easily recognisable as Devey's work. It is extremely picturesque, and is completely surrounded by trees. Built apparently with little consideration of cost, its two gables, one timbered, the other plastered and pierced with a single quatrefoil, its long sloping roof and delightful cupola, its spacious veranda crowned by a balustrade that characteristically continues over the adjoining bay and carries the line of an overhanging story round the building—all these things combine with the brick angle-stacks to form a most charming and complete picture. The considerable work at the seat of Lord Revelstoke at Membrand must not detain us now except to record the fact of its existence. The detail throughout is more classic in form, but always in perfect taste and applied with great skill.

The name of Wickwar Parsonage, Gloucestershire, recalls, not at first the house, but two exquisite sketch elevations of Devey's in pencil and colour. The building is of stone, some of the gables being hung with red tiles; the roof is of stone slates. The chimney-stacks, which are exceedingly picturesque, are of stone as far as the base of the angle-shafts and are then of red brick. It is difficult not to be lured into a certain partiality for special buildings which have impressed themselves upon the memory by means of the truly entrancing sketches of the artist, and we had almost said that among the smaller works Wickwar Parsonage must certainly carry away the palm. To say so definitely, however, would make us hopelessly inconsistent, and we must content ourselves with the statement of our belief that nowhere on a similar scale have Mr. Devey's powers of picturesque grouping and skilful selection of materials shown themselves to more perfection, or been suggested on paper in a more delightful manner. Wickwar was among a number of works, more or less important, which were undertaken for Lord Ducie.



FIG. 11.—WICKWAR PARSONAGE.

The next year, 1871, saw the commencement of two of the largest undertakings of Mr. Devey's office—those at Goldings, Hertford, and Hall Place, Tonbridge. These—with Killarney House, Killarney; Longwood, Winchester; and Adderley Hall, Market Drayton—constitute the most important works, from the point of view of size and general scope. It is a tribute to the architect's power and an indication of the greatness of his genius that he was perfectly equal to all the demands which these larger enterprises made upon his resource, and that their perfection and charm are not less in every particular than in the smallest cottage which he built. When the mind is so thoroughly trained in its perception of proportion and fitness, as to stand constant amid the smallest and the greatest things of life, and when the heart or soul of the artist can expand to such a degree as to embrace the greatest creations of the mind and invest them with that charm which belongs to beauty itself, then there is no question that the artist's personality is very great, and that he deserves the honour and praise of all who love and seek that which is beautiful. And another fact, too, must be noticed in connection with works that individually amounted to sums of from fifty to a hundred thousand pounds—a fact that has a special interest for architects—namely, that the chief of these large undertakings were entirely carried out without any contract or any contractor. Such a method of business would have been of course impossible had the relationship of client to architect been other than the close and personal one which George Devey enjoyed. But even so, it seems to modern ideas a bold thing to adopt these methods with all the responsibility they carry with them. It was, however, eminently characteristic of the man; for if there ever was an architect who built for the sake of his art, and who determined to produce nothing but that which was consistent with his highest ideals, it was he; and seeing that everyone is agreed that design must be in brick and stone as well as on paper, and that "paper-design" is misleading to the highest degree, it was only natural that this master of his craft should regard as distasteful anything that bound him to plan and elevation, demanding the fullest freedom to alter, modify, and rearrange the work as it was in progress. With all his charming qualities as an artist, Devey loved bricks and mortar, and to his delight in seeing a building photographed in the process of erection we owe the possession of many interesting representations of houses, still roofless and surrounded by scaffold-poles. To the methods just described many grave objections have been raised, such however as cease to remain objections in Mr. Devey's case. He was seconded in his efforts by several able assistants, chiefly and most efficiently by his future partner, who was devoted to him as master and friend, and by Mr. Arthur Castings, now an eminent architect, who used the whole wealth of his own knowledge of early detail and the unusual skill of his pencil to support his chief in these days of overwhelming pressure. By their good offices Mr. Devey was relieved of the strain of the immense amount of business which these large works and their methods of treatment necessarily incurred, and was given the free hand which his own genius demanded to perfect each design as it grew to its realisation in brick and stone. The contractor being dispensed with, and competent foremen being employed by the architect under his own supervision, a large amount of friction was obviated, and a very material saving in the cost of the works effected. So Mr. Devey realised what many architects speak of only as an unattainable ideal, the power to design and carry out his own works, to conceive and execute, to plan and to build.

It is not difficult to understand the general feeling among Devey's admirers that Goldings represents most completely and convincingly the supreme gifts of its designer. There is a homogeneity about it, a consistency with itself, that pronounces the author of its existence to have been a master mind. Other buildings may show the versatility of his genius to a greater degree; smaller and more picturesque works may display a charm of deft grouping,



FIG. 12.—GOLDINGS.

effective disposition of colour, consummate mastery of quaint old-world features and alluring detail which charm the eye in spite of itself and create an immediate impression ; but in this great work we may see all the best qualities combined together in complete harmony, and those tendencies towards the merely picturesque which are apt, in virtue of their own exuberance, to become exaggerated, are here subdued and controlled by the strength of that greater conception which desires the realisation of a perfect work of art. If a rather bold comparison may be forgiven, the relation which these larger buildings bear to the smaller is not unlike that which Salisbury Cathedral bears to the many less eminent examples of thirteenth-century architecture. In many another building are the charms of Early English more vigorously expressed ; yet in none are its possibilities more completely and convincingly shown, its claims to that high position which it holds among the great periods of art. The maturity of Mr. Devey's genius found its fitting expression in the larger works which have been enumerated ; the beauties of youth and manhood are by no means the same, for the former excels in the surprising brilliance and enthusiasm of its inconstant moods, while the latter lays claim to a greater quality by virtue of the balance of its powers and the harmony which it has obtained at the price of dear experience.

Since Goldings has the typical plan of Devey's larger houses it may be interesting to notice one or two points in his planning, which he made very much his own and seldom allowed to be missing. The accompanying rough plan shows the arrangement of all the principal rooms, and it will be readily seen that the chief apartments group themselves round the saloon or central hall ; the dining-room and billiard-room face towards the north on to the courtyard ; all the other rooms face south and west. It has been noticed before in this Paper that his characteristic treatment of a building—such as the house at Botteshanger—was to connect the main block of the building to a tower at some little distance by means of an intervening line of low buildings, generally forming the kitchen and offices. The same effect is obtained in the case of Goldings and similar plans by recessing the offices very considerably from the main line of the house and at the same time making them recede in an oblique line towards the north-east. Although the roof remains the same height throughout, the perspective aids the eye in lessening the effect of the unimportant parts of the building till the interest is again awakened by the tower which advances boldly forward and restores the equilibrium of the whole composition. The servants' hall occupies

the ground floor of the tower in this plan, and further outbuildings continue beyond it towards the east.

There is a refreshing naturalness and irregularity in every one of Devey's larger plans, which, unstudied as it may appear, is nevertheless a most vital consideration in the *tout ensemble* of the external appearance. He did not force all the requirements of a large house into the rigid and unelastic bounds of a symmetrical plan wherein difficulties innumerable must arise; but he left the plan almost to make itself, adding, as he required it, each part, with perhaps a special aspect or an excessive projection from the line of the building, if its use demanded such. Then, having found some satisfactory arrangement ensuring internal comfort and efficiency, he restored the balance where the general proportions were threatened

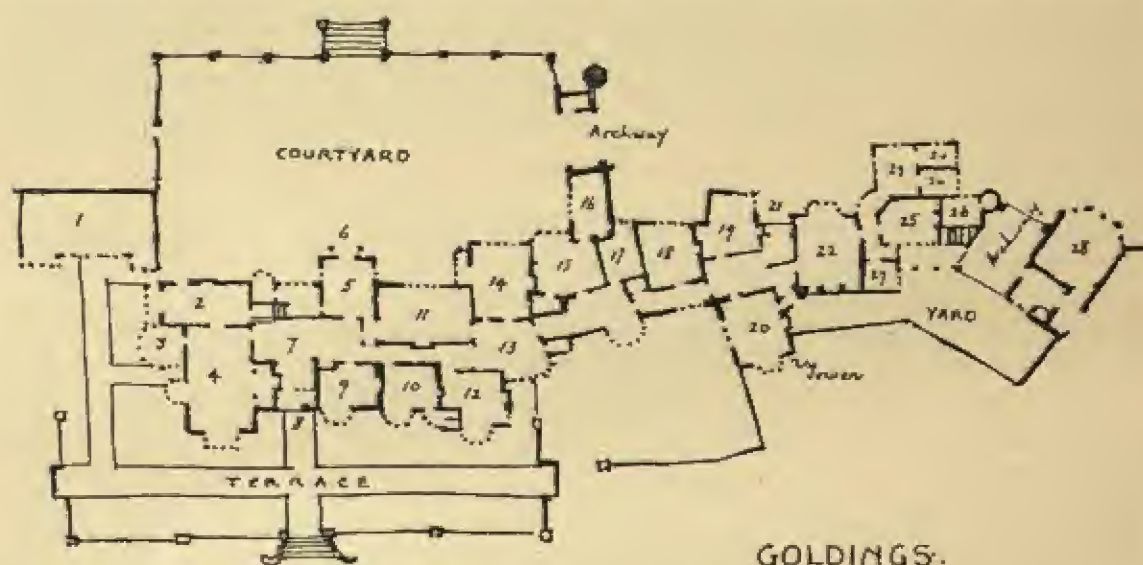


FIG. 13.

GOLDINGS. List of Rooms, &c.: 1, Conservatory. 2, Library. 3, Garden-room. 4, Drawing-room. 5, Entrance hall. 6, Main entrance. 7, Saloon. 8, Garden entrance. 9, Morning-room. 10, Own room. 11, Dining-room. 12, Boudoir. 13, Servants' hall. 14, Billiard-room. 15, Butler's pantry. 16, Butler's bedroom. 17, Store. 18, Housekeeper. 19, Study-room. 20, Servants' hall. 21, Kitchen entrance. 22, Kitchen. 23, Larder. 24, Larder. 25, Scullery. 26, Bakery. 27, Cook. 28, Dairy.

by taking some part high or keeping another low, in order that the whole might express perfect harmony.

Another point in the plan which will be noticed at the first glance is the prodigality of windows, especially very deep and spacious bays. Now one of the most striking things in Devey's design, whether on a large or small scale, is his use of the gable. His work might almost be termed gable architecture, so varied and so constant is his use of this feature. It is no secret to designers of any experience that the successful use of the gable depends in most cases upon the introduction of perpendicular lines into the elevation, and so, consciously or not, Devey enhanced his favourite feature by the introduction of bold bay windows which generally went the full height of the house; and even where, as in the case of Goldings, they are only of two stories; yet the vertical lines are an immeasurable help to the gable treatment. The succession of these bay windows, with the relief that their stone dressings give to the mass of brickwork behind, adds most charmingly to the effect of the façade, breaking its surface at numberless points, as the spontaneous enthusiasm of a good conversationalist will enliven and dispel the monotony of ordinary talk. Indeed, the highest quality

of Devey's architecture is a delightful spontaneity, as though the work had grown of its own accord; and no higher praise can be given than the acknowledgment of this art which has concealed its own art. When our teachers strive to convince us that the requirements of planning are sufficient to make the elevation, and that the material should guide the design, they are merely endeavouring to direct us in somewhat clumsy fashion towards that naturalness and *naïveté* which is at once the most perfect art, and the most difficult thing to learn. Devey possessed in no small degree this coveted *naïveté*. Of all his work he might have said, as Goethe said of his writings, that it was "*à propos*" in the widest sense of that untranslatable but significant phrase. The onlooker can see how beautiful is the design, how necessary to its beauty are all the parts; but the secret of its inception is given to few.

On the character of the work at Goldings we must not wait to write at length. A stone plinth some seven feet high surrounds the building, which is entirely of brickwork above this, excepting only the stonework to windows and doors and the parapets and finish to gables. The brickwork is everywhere relieved by the diagonal lines of dark headers, and now and then a medallion is to be seen with a moulded head or bust within. Although the archway to the carriage-drive and the doorways are formed of four-centred arches, yet the general detail is of the Early Renaissance, the front door having columns and entablature with two dwarf obelisks above. The gables are shaped, and have most charming finials; while the stacks of chimneys, all having circular shafts, are alternately plain and chased with a running ornament between the cap and base. The garden entrance is overlooked by a graceful balcony, with a roof supported by five slender columns.

The internal work at Goldings is sumptuous and would need a volume to describe. The saloon is richly panelled to the height of five or six feet, and the doors are all of most elaborate design. The library is connected to the drawing-room by a large semicircular arch having a partition panelled with a wonderful selection of intricate patterns; the spandril is filled with the characteristic fan ornament of Jacobean work, and the soffit of the arch is studded with sunk panels. The staircase is separated from the saloon by three arches, the two central supports being fluted Ionic columns. Towards the staircase these are backed by square rusticated pilasters, and the arches have perforated pendants. Independent of the columns are massive square newels with elaborate finials, and the balusters are stout turned examples, after types of early date. Other rooms, such as the morning-room, are beautifully panelled to the height of ceiling, with a deep frieze of arched panels, each arch being serrated with a slight cusping, and the cornice has a bold dentil ornament. This room would seem to be a choice survival from the early part of the seventeenth century, but the drawing-room exhibits a much later style, as indeed is befitting, considering its purpose. Here the oak gives way to light painted woodwork, and the Ionic pilasters that surround the room above the panelled dado divide the wall into squares of plainly decorated surfaces. The fireplace is recessed, leaving the lintel, which carries the line of the curved frieze and cornice, supported by two columns standing in the room. The fireplace itself possesses one of the most tasteful specimens of a carved wood chimney-piece which one could ever wish to see, the carved architrave and cornice being separated by a beautifully foliated frieze in such proportions as the best examples at South Kensington might envy. The open fireplace has marble slips and is furnished with a delightful basket grate, dogs, and fireback. The ceilings of all the rooms possess most charming designs in plaster, a province in which Mr. Devey excelled.

To dwell too long upon the beauties of his work seems to involve the biographer in some censure, since it tends to lead the thoughts away from the man, and instead of elucidating his character and personality concerns itself too minutely with their mere effects. To such

censure, in the present instance, the writer feels himself only too liable, but nevertheless has some valid excuse to offer, and even finds some consolation and pleasure in his offence. For when a man spends his life in writing literature his biographer is justified in discussing the opinions discoverable in his works, as the best means of arriving at a precise estimate of his character and beliefs. But neither an artist nor an architect is necessarily a man of letters; it would be astonishing if he were. For why should he seek to handle the difficult and ambiguous medium of language when he has at his finger-ends a vivid, direct, convincing medium wherewith to express his thoughts and feelings? To gain a closer knowledge, then, of an artist's life and personality, to more truly sum up his greatness and to penetrate to his inmost feelings, it is necessary to study his handiwork with increasing vigilance and watch for every indication of a new thought or another point of view.

If from this reason we have been tempted to linger long over the details of Goldings, we might claim still greater licence when we come to consider the beautiful work at Hall Place,



FIG. 14.—HALL PLACE, TONBRIDGE.

Tonbridge. This house, built for Samuel Morley, Esq., was the occasion of the largest and most extensive works undertaken by the office. A large mansion already stood upon the site, but the first scheme, which was to adapt the old building, was given up: it was razed to the ground and a completely new place erected. Hall Place is perhaps second to Goldings in appearance of completeness, rest, and harmony; but it is exceedingly picturesque and embraces all the qualities of a magnificent Elizabethan house. Its internal decoration is really richer and more delightful in parts than that of Goldings, since the expenditure was more lavish. The panelling in the saloon is of the most elaborate design and is beautifully carved. The staircase, with its arches, arcaded balustrade, newels, and strings carved with excellent strap ornament, represents the high-water mark of Devey's design in internal woodwork and confidently challenges any competition in work of its own *genre*.

For Mr. Hargreaves, the friend of John Bright, Mr. Devey built a most charming house (Send Holme) in red brick and stone. This again is a many-gabled house; and as the extent

is of a comparatively small nature, the opportunity has been taken of building the gables entirely of brick, their outline being quite simple, with the apex slightly rounded. Brick string-courses surround the house and its bays; diagonal lines of dark bricks are used over the entire surface of the walls, and the stacks are elegantly designed with angle flues or brick withes. The house has a broad stone plinth which extends itself in the shape of stone garden-walls with massive brick copings.

Of the other works in progress during 1871 the most important were Colonel White-Thomson's house, at Jacobstow, Devon; Colonel Dyson's residence at Adisham, Kent; and Colonel P. Smith's at Wendover, besides a vicarage at the last-mentioned place. These works are all noteworthy, but cannot claim space here. A beautiful little house for Lady Surtees at Lynwood in the New Forest shows us again the wonderful quaintness and unexpected beauty of Mr. Devey's treatment when the subjects were within the bounds of moderate dimensions. The whole thing is picturesque and yet simple, quite a masterpiece in its own way.

In the year 1872 we find Devey at work upon Walmer Castle for the late Earl Granville, and we at once feel that he had met a man who could appreciate to the full extent his genius as an architect and personal charm as a friend. The close relationship which existed between the two men is remarkable, and at the same time of the greatest interest. No one at that time was more to the front in all circles of social or political importance than Lord Granville, and at his receptions Mr. Devey was brought into contact with the most brilliant people of the time. His belief in Mr. Devey's power was so thorough, and his confidence so intense, that scarcely any question came up, however slight was its connection with the profession of an architect, but he sought his friend's advice. Innumerable were the services Mr. Devey was called upon to render—from advising with regard to the imperfect conducting of sound in the House of Lords to counselling the Dover Harbour Board upon the coast works which they had in hand. The extension and alteration of Walmer Castle was the chief work done directly for Lord Granville, and here, like so many other places, Devey—as it has been humorously put—"added the antiquities to the place." Anyone who cares to take the trouble to compare early prints of the castle with its present form will appreciate this phrase better than from any description.

It was not long after this that Devey had the honour and pleasure of carrying out some work for the late Queen, namely, the Equerry's House at Osborne. A more important architectural work was Machariach House, Cantyre, which was rebuilt by the then Marquis of Lorne for the Princess Louise. The original sketches made for this have lost nothing of their freshness or beauty, and the Princess, herself an artist, attested in many ways her high opinion of Mr. Devey's skill. In fact on some of the sketches mentioned above as being in the R.I.B.A. Library her handwriting is still to be seen where she has recorded the fact that he was her guest when the drawing was made. One of the elevations of Machariach House is shown with a *porte-cochère*, and the opportunity has been taken of inserting a carriage in the act of entering, drawn with that unfailing accuracy which has been mentioned earlier in this Essay.

To make the list of Mr. Devey's most important works as complete as possible, we must not omit a large house at Bishop Burton, near Beverley, for F. Watt, Esq.; nor the extensive kennels and stables for the Meynell Hunt, of which Lord Vernon was master. A very large amount of work was undertaken for Earl Spencer, but it was chiefly in the matter of farm and school buildings, of no great importance in themselves, though the latter are picturesque and excellent in their way.

In 1873 an addition was made to a celebrated old house, Brickwall, Sussex, for Edward Frewen, Esq. An entire wing was added and several alterations made to house and garden,

which since have become toned by age and pass as contemporary with the original work. Alterations were made for G. Leveson-Gower, Esq., at Titsey in Surrey, and the charming little lodge was built not far on the road south of Titsey Hill, which is the admiration of all passers-by. A certain amount of work was taken in hand at Knebworth for Lord Lytton, the novelist; but it was not all carried through, as he was one among the people with whom Mr. Devey was not in sympathy, or, putting it perhaps in a more correct form, he was not himself able to see all the beauty in his architect's work; a condition which Mr. Devey, like all artists, was not slow in perceiving. The Duke of Westminster, who was by this time the possessor of Cliveden, and Sir George Mellish, of Worksop Priory, were valuable clients, and many charming things were done at Benenden in the form of schools and rectory for Lord Cranbrook (then Mr. Gathorne Hardy).

The year 1874 gave Mr. Devey three opportunities which he was not likely to miss. In the first place he was entrusted with large additions to that most charming of Lancashire mansions, Smithills Hall, near Bolton. This task was always a delight to his heart, and his work, which consisted of alterations as well as the lengthening of the long garden front, was completely in the spirit of the original timber and stone building. The story is told that an artist who was greatly in love with Smithills, being the guest of Mr. Ainsworth, commenced one day to make some sketches, and Mr. Devey found him busily at work upon the new parts, in complete oblivion of their comparative youth. If he took the trouble to enlighten him we may hope that the artist was sensible of his good fortune in not only being privileged to see so beautiful a building, but in even conversing with its designer and fashioner.

The second field for Devey's energies was a somewhat extensive one, including very large alteration and reconstruction of Barry's work at Sudbury Hall, restoration of Sudbury Church, and other undertakings for Lord Vernon on several of his estates, besides his London house at 34 Grosvenor Street. The work lasted for some fourteen years intermittently, that of most importance being at Sudbury Hall.

In the third place he was called upon by Leopold de Rothschild, Esq. to prepare him a country seat at Ascott, near Leighton Buzzard. To those who know the beauty and extent of Mr. Rothschild's mansion it will seem strange to think of a time when nothing but a very small farmhouse stood upon the site, the walls of which are still there, incorporated in a part of the new building. The old farmhouse was charming to a degree, and a most beautiful sketch of it by Devey is now in the possession of Mr. Rothschild. This modest example of early work set the keynote of all that was to follow. Addition after addition was made; gable followed gable, and their numbers doubled and trebled. Not all at once, but sometimes after long intervals; until, increased, even more by the able successors to Devey's name and work, the present long range of picturesque buildings have come into being. The internal work is in its costly nature consistent with the reputation of the proprietor's name: delightful panelling, elaborate ceilings, chimney-pieces rich with carving, and furniture in perfect accord with the decoration. The gardens were not designed by Mr. Devey, much of the work to be found in them—such as temples, seats, and arbours—were carried out by Mr. James Williams after his partner's death.

Among the clients of 1875 was the celebrated Stratford Canning, created Viscount Stratford de Redcliffe, for whom several things were carried out at Frant. Lord Carlingford too had considerable alterations and enlargements made at Dudbrook, Essex, which he prepared for Lady Waldegrave, whom he married—the famous hostess of her *salon* at Strawberry Hill. Two mansions of great size and striking beauty were commenced during this year—the one Ashfold, near Handcross, Sussex, for Eric C. Smith, Esq., and the other Blakesware, Ware, Herts, for Mrs. Gosselin. The name of Blakesware, or rather the slightly disguised form of

"Blakesmoor," is famous in literature as being the subject of Charles Lamb's exquisite essay in the second series of his *Essays of Elia*. Lamb, however, who wrote in 1824, describes an earlier house and laments its demolition; had he been able to see the charm of its successor he would perhaps have been moved to write yet another essay on a *Paradise Regained*.

Our work is now becoming somewhat of a catalogue of names, but it is interesting to have before us all the chief works of the architect, and it is only the arbitrary conditions of space that deter their fuller description and eulogy. In 1876 Devey undertook some important enterprises for Lord Rosebery which must be considered as extending to the year 1883 or 1884. Durdans, a large house of no beauty, of late date, of monotonous appearance, was entirely remodelled in design and given its present form. The old sash windows were taken out bodily, and casement lights, with stone jambs, mullions, and transoms, substituted, the whole aspect being completely transformed. Riding schools were built at both Durdans and Mentmore, including extensive stabling, in all of which Devey showed the extent of his expert knowledge.

For another member of the Rothschild family—Miss Alice de Rothschild—was built a small but elaborate summer residence at Eythrope in Buckinghamshire. This house is not far from Aylesbury, and in the same vicinity some extensive and successful works were carried out for a friend, Mr. Richard Rose, at "The Chestnuts." Two new houses, Tregavethan Manor, near Truro, for Major Vivian, and in London 41 Grosvenor Square, for Chas. Wilson, Esq., M.P. (now Lord Nunburnholme), are complete examples of excellent and tasteful domestic work.

The present year represents the climax of Devey's work, although three of his largest works followed in the next year and a little later. It must be remembered that most of the extensive undertakings described earlier were still in the process of completion, and that they were being carried out entirely by the office, unaided by contracts and contractors. At this time, therefore, Devey's life was absorbed in his work to a greater degree than ever, and it is a disappointment to us that we are not able to draw upon any of his own reminiscences of these days. His death occurred in the midst of his duties, and when alive he seemed never to have been tempted to look back, but always to be living the fulness of his life in the fascinating occupation of his profession.

The magnificent seat that he built for the Earl of Kenmare is worthy of most minute and careful study. Killarney House has always been the particular pride of Lady Kenmare (the present Dowager Countess), who admired Devey's genius, and entered into his schemes with great enthusiasm. Erected in one of the most beautiful situations near Killarney, it possesses a plan which is rivalled only by Goldings in the freedom and convenience of its treatment, and exceeds it in certain points of magnificence. The exterior, of brick and stone, must be acknowledged as somewhat surpassed by the delightful work at Hall Place and Goldings; yet the internal work attains the same height of exquisite detail and fine proportions. The saloon is two stories in height, and possesses a balcony of bold projection supported by columns and bounded by a rich balustrade of arches after his favourite manner. Elaborate panelling decorates the wall to the height of some twelve feet, and above are hung large tapestries carrying the eye to a ceiling of deep plaster ribs arranged in most charming patterns. The chapel is panelled and carved with the linen-fold ornament. A marble reredos and lofty roof give it a striking appearance.

At Adderley Hall, Market Drayton, and Longwood, near Winchester (the first for Henry Reginald Corbet, Esq., and the second for the Earl of Northesk), George Devey put into execution the two last of his great designs. Both these mansions, built on a very large scale, exhibit in a marked manner the best characteristics of his work; and now after the lapse of twenty-five

years or so, which have given to them some of that largesse of beauty that comes from the passing of time, they may rank with the best types of our own English architecture. Both Longwood and Adderley Hall embrace extensive courtyards, and the grouping of their parts remains a model of the picturesque; yet their dignity is by no means forfeited, skilful use being made of those square towers, which are the glory of our native collegiate architecture, and adapt themselves wonderfully to Devey's special treatment.

From this period—the beginning of the eighties—till his death in 1886, Devey's time was fully occupied in these large works and the numerous smaller calls which his profession made upon him. There were several houses built in Lennox Gardens, S.W., the most important being for the Honourable Mrs. Hunloke, sister of the late Lord De l'Isle. At Pitchford Hall, Shrewsbury, the seat now of Colonel C. J. Cotes—one of the most charming mansions wholly of half-timber work in the kingdom—most important additions were made; and in the last two years a fine house was erected for Mr. Hichens at Monkshatch, near Guildford, and large additions were made to Melbury, the seat of the Earl of Ilchester, who has within the last few months passed away. The work at Melbury, which is of stone, has been described as very fine. The drawings made for the dairy might represent some abbot's kitchen with its octagonal roof and battlemented parapet filled with tracery. This little Gothic design is a reminder of Devey's skill in Gothic work, and if he had been led into the paths of ecclesiastical architecture his success could have been safely predicted. As it is, the chapels at Minley and Killarney, and his restorations of Sudbury, Buckland, and many other churches are ample evidence of his taste and knowledge. Quite a large number of ambitious drawings of ecclesiastical work show that his unfailing sense of proportion and beautiful grouping did not desert him in this department of design, and we could wish that his domestic work had not so completely monopolised his time.

We have already referred to the folios of sketches for cottage buildings that have been preserved from the great output of Mr. Devey's pencil. These sketches contain such a manifold variety of design, and hold such a treasure of beautiful drawing and colour, that it would be a pleasure to try and bring to the light some of the charm that now lies hidden from public knowledge. Of every material, of all sizes, of unlimited diversity of treatment, they yet display throughout the spirit of the "old work" which claims the homage of all who attempt to design architecture. Devey was in no sense an antiquary: he was a thorough artist with the practical knowledge necessary for his art; but he could have probably excelled the best antiquaries in his familiarity with the details of the style that he followed. He was not too great to own his indebtedness to his forerunners, and his best work is frankly modelled on what they left behind them.

In bringing this review of George Devey's work to a close the incompleteness of the attempt is very obvious, and many things omitted from this description, which happened in a career of such wide usefulness, might present themselves for recognition at the end. The simple but charming stone bridge over the river at Penshurst, with its massive buttresses and pointed arches, should be remembered; and a model farm devised for Baron Ferdinand de Rothschild, who desired to build it in Silosia in Germany, cannot be passed over, since it is the subject of a beautiful water-colour sketch in which the farm is shown surrounded by woods, and the cattle lazily wander down the road at milking time [*see headpiece*]. Examples such as these could be multiplied many times; the hand that produced them was indefatigable, and the pencil and brush were never still.

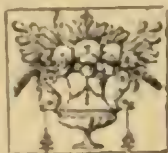
Among Mr. Devey's clients we have already noticed that he found many warm friends. Of these none was more sincere than Lord Granville, and three men of eminent taste and artistic temperament must be mentioned with him, namely, Sir Walter James (afterwards

Lord Northbourne), Mr. W. O. Hammond of St. Alban's Court, and Mr. Pilgrim of Akeley Wood. Mr. Bertram W. Currie was an enthusiastic admirer of Mr. Devey and extended to him all the privileges of friendship. Of his intimate friends we may place first the names of Mr. Edmund Yates of Uckfield, Mr. Edmund Auberton of Eastbourne, and Mr. G. Bentley, of whom Mr. Devey would always speak with the greatest regard, and would refer to him as his chief authority regarding those hobbies of his, whips, coaches, harness, &c. ; and last, but in no sense least, the name of Mr. James Williams, who in so able and sympathetic a manner seconded all his work, and ultimately became his partner and successor.

Mr. Devey's office was at 123 Bond Street, when he died in 1886 at the age of 66 years. He had just completed the purchase of a charming old house on the coast near Hastings, and was doubtless hoping in the near future to find in it the pleasures of retirement, and rest from the activity of his business life. But it was not to be. Like so many other architects of past generations he left the world suddenly in the midst of his duties, and none could wish a more fitting conclusion to a life filled with gallant service to the art which he loved.

Mr. Devey's relations with his professional contemporaries were always of a most friendly character. He travelled somewhat late in life with a party of architectural friends (among which number Pearson, Street, and Burges are reported to have been) to France, Holland, and Belgium, and the sketches made on this tour are in the R.I.B.A. Library. It was on the occasion of their arrival at Dunkerque that Mr. Devey was introduced to a French architect who bore the same name as himself—a rather singular coincidence.

We cannot do better in bringing this brief memoir to a close than to emphasise again the beauty of Mr. Devey's work and the beauty of his personality. There are many men who are able to appreciate the beauty around them in the world and its idealisation in works of fine and applied art. There are very few who have found the secret of expressing their conception of what is beautiful equally in their personal life and in artistic creation ; and fewer still who can excel in the artist's sphere and in that of the architect too. To master the difficulties of the water-colourist and seize the essential points of beauty in such natural scenes and forms as are met with in life, and place them in their sweetness and freshness for our admiration, is to gain renown. To so intimately study every side of a great style of architecture, in its practical expression and ideal conception, as to be able to produce works having every element of greatness and beauty is to rise to a still higher measure of attainment. But to preserve such a spirit of nobility, and such a largeness of heart, as to enable the mind to exercise a consistent purity of taste and discernment, and at the same time to energise all the work of the artist's, architect's, and private man's life, this is to reach highest of all, and is the basis of George Devey's claim to our unfeigned admiration and regard.





9, CONDUIT STREET, LONDON, W., 29th Sept. 1906.

CHRONICLE

The Examinations.

The following additions and corrections are made to the Lists of Passes at the Midsummer Examinations, published in the JOURNAL for 28th July:—

PRELIMINARY.

RANDALL: Wyndham Morgan; Bluen Gwawt, Park Street, Bridgend, Glam. [Masters: Messrs. Cook and Edwards].

INTERMEDIATE.

MATTINSON: Malcolm Dacre [Probationer 1903], 29 Derby Road, Weaste [Master: Mr. Arthur Mattinson].

BRADFIELD: Horace Henry [Probationer 1903], 1 Lysium Road, Nightingale Lane, Clapham Common, S.W. [Masters: Messrs. St. Aubyn & Wadling*].

FORSTER: Edward Harold [Probationer 1903], North Field, Thorne, Doncaster [Master: Mr. J. M. Dossor*].

Obituary.

COLONEL GALE (dec. 6th August).—Joseph Gale was born in 1830, and became an Associate of the Institute in 1857, and a Fellow in 1861. He was thus one of the oldest members, only five Fellows being of older standing than himself. He was articled to Mr. Porter in the first half of last century, and he used sometimes to refer to his master as one of the "Twelve Apostles," it being said that there were only twelve architects of eminence practising in London in those days. How differently should we sum ourselves up to-day! Mr. Gale was always keenly interested in the artistic side of architecture, although the nature of his practice did not lead it entirely in that direction. He was always a student of ancient examples, and possessed a wide acquaintance with old churches in many parts of England. His office was situated in Bermondsey, and his practice was chiefly local; he was for many years surveyor to the Assessment Committee, and was of great service in that capacity, being the depository of much local knowledge. He was the architect of one or two of the early schools built in that district under the London School Board. Of his hobbies, the most notable were volunteering and photography, in each of which he achieved distinction. Soon after attaining the rank of Lieut.-Colonel, and the Volunteer Decora-

tion, he retired from the service; but during the many years of his connection with his corps he was assiduous in the discharge of his duties. In photography he achieved high distinction, and some few years ago was considered the most skilful and successful of those who imparted artistic character to their work. In recent years his failing eyesight was a great hindrance to the pursuit of his favourite diversion. He was a cheery companion and a great walker, and until some eight or ten years ago was as keen in active country pursuits as the younger generation which had grown up around him.—J. ALFRED GOTCH.

THOMAS BARNES-WILLIAMS, who died on the 8th ult., in his fifty-ninth year, was elected Associate R.I.B.A. in 1871, and Fellow in 1886. He had practically retired from business on the dissolution of his firm, Messrs. Barnes-Williams, Ford, & Griffin, of Coleman Street, E.C., in 1903. Mr. Barnes-Williams was for many years District Surveyor for St. Mary Magdalene Bermondsey, St. John Horsleydown, and St. Olave Southwark, resigning the appointment in 1901. He had also filled the posts of Architect and Surveyor to the Coopers' Company, and Surveyor to the Trustees of Morden College, Blackheath. Among buildings erected from Mr. Barnes-Williams's designs are Mr. E. Stanford's premises, occupying the site of the old British Coffee House in Cockspur Street, and Messrs. Mathieson's premises, "Token House," in Cophall Avenue. His firm were responsible for the design and erection of numerous important warehouses and business premises in and about London, cottages and residences in the country, hospital buildings at Lewisham, &c. The firm won first premium for the rebuilding of the Whitefield Tabernacle, Tottenham Court Road.

REVIEWS.

ENGLISH DOMESTIC ARCHITECTURE.

English Domestic Architecture of the Seventeenth and Eighteenth Centuries. By Horace Field and Michael Bunney.

This book fills one more gap in the complete history of the English Renaissance, though necessarily touching, in some small degree, on work already illustrated. The output of literature dealing with our national architecture has hitherto dealt more particularly with the works of the more prominent men and the larger buildings, while only a very small number of the architects responsible for the works here illustrated are even known by name. What strikes one in running over the list of buildings selected for illustration is the vast majority of examples from the southern and midland counties, while, as in other books of a somewhat similar character, the northern counties are very poorly represented. Of course these latter are not so abundantly supplied with

good examples, but from the writer's personal knowledge there are many good stone buildings in Cumberland, Westmorland, Yorkshire, and other northern districts, not only well worth illustrating, but almost essential to a book of such an all-embracing title, as showing the development of domestic architecture in this part of our country.

The authors are surely quite right in their assumption that a volume on the smaller Renaissance buildings is not superfluous, for national tradition pursues the even tenor of its way far less affected by foreign influence and temporary fashion than the larger buildings; but, for all that, there is no reason why the larger work not within the scope of the volume should be adversely criticised, and the reference to Elmes's work at Liverpool in a derogatory spirit is unfortunate, as, though admittedly inspired from foreign sources, it ranks among our finest buildings, and is designed on a scale for which our "English Domestic Tradition" would have been hopelessly inadequate.

The works of Jones and Wren were of necessity in a fresh manner, and unfettered by the tradition the times demanded change from; and with the beginning of some knowledge of the Renaissance among the higher classes of the English, there began the desire for building of the more monumental kind. The older type did not lend itself in Jones's time, any more than ours, to the larger buildings required, but of course it took a genius to recognise the fact and strike out the new line which added so much to our English architecture. The authors express the hope that the thread of tradition may some day be again taken up. They surely would not revert to the earliest work before the introduction of Palladianism!

We could almost be said to have two national types—the older one suitable for the ecclesiastical and domestic work, and the other the classically inspired. When the great monastic institutions were overthrown the whole life of the country was changed, and fresh requirements arose which could not be met by the architectural capabilities of the time, fine as they were in their own way.

As a comprehensive review of the types of the work of the smaller school, with the exception of the northern work above noted, this book fulfils its mission; and though the type of draughtsmanship is occasionally a little stilted, the majority of the drawings are clear and straightforward. The drawings are mostly elevations without plans or details, which fact detracts from their value very much, and is to be regretted, as in this class of building there is often to be found varied detail of much interest without being too weird.

The photographs are mostly poor and the weakest point in the book, figures Nos. 67, 59, 41, 2, and 1 being of little use, and some of the better, such as 62, 28, and 40, are just enough to whet one's appetite; but a few, such as the Butter Market, Bungay, and the entrance to Bromley College, are quite charming.

The authors are to be congratulated on their production, which must have entailed much labour, and with such a wide range of selection the choice of the examples must have been a matter of much concern. The method of division under the heading of materials in lieu of districts, is very advantageous.

HENRY TANNER, jun.

GOTHIC ARCHITECTURE IN ENGLAND.

FROM MR. FRANCIS BOND, M.A. [H.A.].—

Mr. Edward S. Prior has said many nice things of myself and my book on *Gothic Architecture in England* in the JOURNAL for 28th July, and it is a pleasant duty to express my obligations to him for his able, comprehensive, and detailed criticisms of my work. A friend of mine wrote the other day, "You seem to have had many favourable reviews of your book, mostly by incompetent persons." That cannot be said of Mr. Prior's criticisms; for he has worked over the whole field in which I have been occupied, and has himself recorded his results at length in his *History of Gothic Art in England*. There are many points raised by him in your columns which I should like to examine, but I must not unduly occupy your space. On several we differ, and always shall differ. I regret, however, that I have been unable to convince him of the foolishness of the antiquated division of Gothic architecture into the three periods of Early English, Decorated, and Perpendicular. My proposal to relegate this nonsense to limbo has been received with approbation by almost every critic except Mr. Prior. Rickman's periods are dead as a doornail, and nothing will resuscitate them. Take almost any one of the leading characteristics of a Gothic building—the planning of cathedral, abbey and collegiate churches, the planning of parish churches, the methods of vaulting, the systems of abutment, whether in the way of buttress, flying buttress, pinnacle, or opposition of lateral thrusts, the forms of arch, the parapet, the tower, the spire, the roof—and not a trace of any such periods can be found. Even window tracery, as Mr. Rickman expressly stated, divides, not into three, but into four periods. Nevertheless Mr. Prior rightly accuses me of inconsistency; for I have myself introduced three chapters enumerating the characteristics of these three so-called periods. The fact is I was afraid that the world was not ripe for what Mr. Prior calls "revolution"; and those whom I consulted were also of opinion that people would not consent to part with their cherished idols yet. But in the next edition I shall have the courage of my opinions, and the chapters on the three periods shall certainly be deleted. A serious mistake, is the misquotation, from the account by Gervase the monk, of the rebuilding of Canterbury choir. Perhaps I may give the genesis of it,

as it may be useful to impress on others besides myself the importance of verifying references. This particular quotation occurs in Paley's *Gothic Architecture*. Usually I attempt to verify references; but on turning to Willis's *Canterbury* I found that my copy had disappeared. However, I looked it up in an early volume of the *Archæologia*, and found it precisely as worded by Mr. Paley himself, as a rule a very careful and accurate writer. That, then, is the story. The writer in the *Archæologia* made the original mistake (I do not think that he quoted from some other text than that printed in Willis's *Canterbury*); his mistake was copied by Mr. Paley, and Mr. Paley's mistake was copied by my unfortunate self. As to Chichester, till Mr. Prior supersedes Professor Willis's paper by a scientific monograph of his own, I must pin my faith to Willis. The mistakes as to Chichester Cathedral pointed out by Mr. Prior are in almost all cases but a repetition of the statements made by far away the ablest man who has ever written on our mediæval architecture. As to my views of bay design as conditioned by the lighting problem, I am not surprised that they are unacceptable to my reviewer. They are quite new, and what is new is often not true. Nevertheless I hold to them. The bay design of Ely nave differs from that of Gloucester nave, because at Gloucester the builders determined to get all they could out of side-lighting, and so built an exceptionally lofty pier arcade to obstruct as little as possible the light from high-set aisle-windows. At Ely they introduced a new row of windows in an upper aisle, which consequently, having to be lofty, was made so at the expense of the pier arcade below. As for my remarks on the masoncraft of Chichester, they are summarised from a valuable Paper by Mr. Prior himself; nor do I note anything wrong but what is obviously a clerical error of 1190 for 1090 and 1195 for 1095. My reviewer also grieves that I think Winchelsea choir like Bristol choir. They are about as alike as the moon and green cheese. What I said was, "Winchelsea like Bristol choir is of highly advanced type," which is a somewhat different thing. He is also saddened that I praise "the tame mechanical performance of Louth spire." Well, I have seen nearly all the big spires, both here and on the Continent, and I put Louth spire far and away above all as a piece of design. It is odd, but it shows how tastes differ, that during the preparation of my book I received letters from two gentlemen, whose opinions on architectural matters are of great weight, asking me to treat at length and to give special prominence to Louth spire. It was indeed because of their representations that this spire was allotted by the publishers the only double-page illustration in the book. As to the length of my quotations from French archaeologists it shows what a grateful heart is mine; at the same time, to be exact, the quotation from M. Enlart as to the English origin of French

Flamboyant does not spread my gratitude over a whole page, but over just one third. The late Master of Trinity said sadly to one of his junior Fellows, "We are none of us infallible, not even the youngest of us." Authors are not infallible, nor, I may add, are reviewers. In the very last line of his review Mr. Prior refers to a "mistake" of mine. As it refers to an important matter, allow me to refer to pages 332, 333 of his own book. In these pages he tells us that, "at any rate during the *fourteenth* century, Brittany would seem architecturally a province of Western England." That in the *fourteenth* century the same character of work was being done in Brittany and by Bishop Gower at St. David's. "They were the essential motives of English Decorated design that Breton masonry caught up." Now my mistake consists, first, in believing—in which, I think, I have the French archaeologists with me—that, with the exception of a solitary chapel at Amiens, Flamboyant does not commence in France till the *fifteenth* century. If so, Mr. Prior is wrong in stating that it was in full use in Brittany in the *fourteenth* century. In the second place the chief examples on which Mr. Prior relies for the *fourteenth*-century dates of Breton Flamboyant are, as given by him, the choirs of Dol, St. Pol, Folgoët and Lamballe, and the Kreizker. But when I went on to verify his dates I found them quite unreliable, at least if I may trust the chronologies of M. Camille Enlart. For the Kreizker is partly 1366-1399 and partly *fifteenth* century. The choir of St. Pol is included by M. Enlart in his list of Flamboyant churches, and therefore is not earlier than the *fifteenth* century. Folgoët was not founded till 1409; how, then, can any work in it be of the *fourteenth* century? Lamballe choir was built 1420-1465, and is therefore also *fifteenth* century. And there is worse to come; for Dol choir was built 1231-1265; how could this *thirteenth*-century choir be inspired by English work of a century later? It was therefore no mistake of mine which led me to correct my reviewer's assertion that the Flamboyant style was in use in Brittany in the *fourteenth* century. Finally I am told that what I fondly imagined was a photograph of the vault of the central tower of Lincoln is a photograph of the "modern ceiling given to the tower space of Boston tower by Sir G. G. Scott." Really this is amazing. I took the photograph myself; surely I ought to know what it is. Mr. Prior can see my negative if he likes. Of Boston Church I never took a photograph in my life. My reviewer actually seems not to know the difference between Boston Stump and Lincoln central tower. Never have I met with such colossal confusion since the evening when I had the good fortune to hear an eminent Professor of Architecture describing to a spellbound audience a lantern picture of the exterior of the dome of St. Paul's as the interior of Westminster Abbey. But that was after dinner!



JACOBEOAN FLORAL ORNAMENT.

By RICHARD G. HATTON, Hon. A.R.C.A. (London),

HEAD MASTER OF THE SCHOOL OF ART, ARMSTRONG COLLEGE, NEWCASTLE.

Read before the Northern Architectural Association, Newcastle-on-Tyne, 17th January 1906.

WITH all its clumsiness Jacobean ornament is, if not admired, at least loved. It belongs to a style and a period which, however many parallels to them there may be in Continental art, seem to us peculiarly English. The clumsiness, perhaps, deceives us, and fosters a conception in our minds that there was in those days more of British bungling-through than of skill or principle. A closer acquaintance shows us that this was not the case. It is much to be doubted whether what we call degenerate styles are not as much the groping after new principles and new ideas, as of the misuse and abuse of something inherited and not understood. Give the degenerate style time and opportunity, and it will discard the forms it has outgrown and does not know how to wear; for, unless thought and civilisation are gone, they will express themselves again in their new conditions.

To reject skilful methods, to neglect traditions, is not necessarily to be either less civilised, or less thoughtful, or less devoted to art. It may be that the old highly developed methods and modes have lost their meaning—have become highly organised craftsmanship, to the neglect of that impulse and meaning which called them into being. Indeed it is very clear that this was the case with the ornament of the later sixteenth century. No healthy human instincts and passions could longer have endured the acanthus foliage and cartouche forms of that time.

Acanthus foliage and cartouches constituted the official ornamentation still in vogue when the seventeenth century opened. Although they are very well known to architects, it will facilitate the explanation of the Jacobean work, to indicate the salient characteristics of this official style, which was essentially of a modelled character. Arising in carving, it became so generally used as to find a place in practically all the crafts. Certainly where there could be shading with which to simulate a carved effect it gained a definite foothold.

Carved ornaments are usually—perhaps one may even say always—distinguished by pure and decided curves. The spirals, for instance, are very regular; and the same regularity is to be seen in the rosettes. It is evident that this regularity can be adopted in carved work, because the light and shade at once vary it. The regular spiral is no longer regular, nor the rosette strictly symmetrical.

The variations due to light and shade were indeed most happily managed, and the possibilities in the style were made evident. But it is the fate of all highly trained and sensitive art to suffer in essentials, as soon as a less skilful hand touches it. The blunter

forms of art are readily repeated and lose little in inferior hands; but sometimes the greatest skill is needed, or the work degenerates at once.

One of the best instances of this change, of which I am aware, is in the re-engraved botanical drawings in the old herbals. The less sensitive suffer very little, the more sensitive lose all their beauty. The acanthus and cartouche style with which the sixteenth century closed was of that sensitive character which is at once destroyed when wrought indifferently. The change can be easily followed in the woodcut book decorations of the time. The acanthus and cartouche style required not only skill but understanding. It was purely artificial. It responded to no natural instincts or ideas. Its forms were not the forms of actual life, but pure make-ups; and make-ups that meant nothing at all, not even to their skilled producers, much less to the unskilful workmen who endeavoured to copy them.

The inevitable happened. The more rugged artists, lacking the necessary education to assimilate and emulate the examples set before them, were yet artists. They were engaged in making things the better by decoration, and found in themselves principles and modes which, if not leading to the refined and artificial art of other times and other places, were full as trustworthy guides in design.

It will, I think, be found to be true that there are two main classes of ornamentation, and that the one succeeds the other, like the swing of a pendulum, when the one which is in vogue declines. An age pursuing good technique will come to revere a kind of work in which technique is lavishly displayed, till at last the work depends entirely upon the technique. That is to say, the mental suggestion, the imitation of nature, which at first were recorded in that technique, become neglected as skill becomes more and more insisted upon. When, therefore, a style buoyed up by skill (as in the Roman and Renaissance) is suddenly bereft of skill, the interest which has come to be wholly in the skill is lost, and the artist reverts to the imitation of nature and the expression of tangible ideas. We see this in the Byzantine and in the Jacobean.

Further, skill implies form and drawing more than colour—colour may need skill to produce it, but it rather needs feeling and passion. Form and line, on the other hand, must be rendered by skill. So that a skilful style is usually one of form and drawing, and, when it declines, it gives place to a style based upon colour, or upon black upon white, or white upon black.

When therefore the seventeenth century opened in England, the acanthus foliage and the cartouches were still in vogue, but were already suffering decline; while at the same time the flower forms, which, as the emblems of England and Scotland, could be appropriately used, were introduced more frequently than was actually necessary. Gradually the floral elements became more and more numerous; and the acanthus and the cartouches sank more and more into insignificance.

The acanthus was, however, by no means discarded. In a very blunt, coarse, and rather flat condition it remained a most valuable architectural ornament. It could be repeated without offence, and, since it almost lacked beauty, without much notice being taken of it. It was used, in fact, wherever a more severe ornament was advisable, generally closely connected with mouldings and strapwork. It occurs in needlework borders whenever a steady repeat is needed to render the design architectural and formal.

The strapwork was indeed no more than the cartouche of earlier days. The cartouches, when in their glory, had been boldly curved in form, so that they took definite light and shade—one side being in light, the other side in shade. Twistings, piercings, and involved convolutions had been employed to develop the form as much as possible; and with the form, the light and shade also were consciously elaborated and carefully balanced.

But as the decline set in the surface of the cartouche became again flat, and only the edges turned or curled up. The piercings still remained, and indeed were developed, for there was no other way of using flat cartouche work than by piercing holes in it, and letting it make a network pattern, dark, upon a white ground. Thus arose rather gridiron-like designs, familiar enough to us; and these continued, growing flimsy and slight, and ultimately becoming mere lines, as the seventeenth century wore away.

The rose figures largely in Elizabeth's day, and to it is joined the thistle when James succeeds her. Designs including the rose and thistle are thenceforward common. The lily of France, very poorly represented like a fleur-de-lys on a horse's harness, sometimes appears as well. Apparently it was about 1630 when the floral catalogue was increased. Lady Alford attributes the decline of needlework at that time, with its consequent (and, apparently to her, regrettable) influx of floral and animal forms, to protective legislation, which shut out foreign embroidery, and drove the English-needleworker back upon himself.

Although 1630 is perhaps not too late a date for the rise of the general use of floral patterns, such really arose in the days of the Tudors, and, of course, floral forms had been used on textiles for a hundred years before that. About Elizabeth's time, however, there arose a crude, but beautiful, kind of decoration in needlework (of which examples are at South Kensington) unlike the official work of the day. It consists of circular curves of uniform size unconnected—and hardly complete—and each enclosing a flower. The flowers differ, but recur without any system.

It is precisely the kind of work a person, too unsophisticated to know anything about acanthus foliage or the complications of organised design, might well do if called upon to decorate some surface. Pos-



A PRINTER'S DECORATION. ENGLISH, ABOUT 1630.

sibly the great increase in the study of plants, which at that time was promoted by the publication of profusely illustrated herbals, and the great impulse then given to gardening, directed attention to the forms of different flowers.

There, nevertheless, the patterns are, combining severe scale-like planning with a simple rendering of nature. The flowers most generally seen are the rose, the pink, the honeysuckle, the columbine, and the thistle, with numerous others less easily identified.

The style seems to have suddenly expanded in the reign of Charles I. It does not seem to have lingered long after the Restoration. The acanthus once more came back, this time with more punctilious execution, and with a promise of the boisterous Rococo to follow. The classic taste revived, and one no longer sees the roses and tulips, the oak-leaves and columbines of earlier days.

This floral style has been the subject of both admiration and dislike. It has about it a peculiar "old England" flavour, which has prompted that fervent appreciation due to sentiment and patriotism. On the other hand, its monstrosities have called down upon it the censure of the refined and learned. Its complete disregard of scale (with a lion the size of a fly, and a fly the size of a lion, side by side with a huge pansy and a diminutive cottage) has been chiefly to blame for this. Its, at times, gross ignorance of the correct forms of conventional ornamental elements, as of acanthus leaves, for instance, earns for it the distinction of being rather a block-head style; and—there is no gainsaying the fact—at book-learning its producers must have been uncommonly dull.

Nevertheless, the producers of this style, if clownish, were by no means so stupid as decorative artists as they appear to be at first sight. They achieved results which are rich, decidedly pleasant, and thoroughly enjoyable. It may be the gardening, flute-playing, maypole-dancing part of us which is delighted; but it cannot be denied that it is the more natural and English part of us. One regrets, therefore, that the style should have so completely decayed, and be now totally a thing of the past.

The style is peculiar for its use of many flowers on one stalk. This is, by some, regarded as a wicked abuse of Nature. But, in a garden, still less in a hedgerow, one does not see the various plants clearly distinguished from one another. They raise their heads up among their neighbour's foliage, and intertwine their boughs, without regard to the preservation of identity. Such a "natural" confusion may be, perhaps, a sufficient answer to the charge of violating Nature's own methods.

And yet a love of Nature is the keynote of this style. There is, in it, no conventionalising, and none of that ornamental twisting of plants which so prevails at the present time. There is the bold use of the spiral main line as a necessary decorative member, but beside that there is only the straightforward representation of the plant.

The decorative use of natural forms was, indeed, greatly facilitated by the more general, and less searching, manner of observation, which, in those days, satisfied the botanist and the draughtsman. Their successors to-day are less readily pleased, with the result that the decorator is too fearful of the botanist's sneers to use the bold hand which, in the sixteenth and seventeenth centuries, gave such charm to all renderings of plant-form, whether "scientific" or artistic.



A DECORATIVE INITIAL LETTER.
KIMLIEB, ABOUT 1400.

At that time the identity of a plant was confined to a few bold characteristics, generally concerned with the main form of the flower and of the leaf, although the whole appearance of the plant and the form of its root were always noted. Still, so far as the ordinary delineation of plants was concerned, a flower, perhaps also a bud and one or two leaves, sufficed. Possibly the habit of gathering flowers and of putting them in baskets and bowls may have had something to do with this pre-eminence of the sprig, and the neglect of the plant as a whole. Or it may have been the not unnatural hesitation of those unskilled artists to repeat the elaborate, fully rendered plants, which must then have been so commonly to be seen on the tapestries hanging in every large house.

To whatever cause we ascribe the prevalence of the sprig as a unit of decoration, it became an important detail in all ornamentation. It partakes of a very decided character. It has usually a single- or double-curved stem with a large flower at top, while from the lower end branches off a leaf which crosses the stem. The decorative quality of such an element will be at once evident to a designer, who will recognise in it that reversal of line which renders the form suitable to stand unenclosed.

One is, therefore, not surprised to find this crossing of leaf over stem in the early patterns, of which mention has been made above, in which little sprigs occur within scale-like, spiral, or circular curves. These curves were all of the same size, and in the early examples were not connected. In the later patterns they *are* connected together, and grow from one root. And although there are many small spirals, enclosing each its separate flower, there is at the same time, in obedience to the demand for decorative subordination, prominence given to several large, bold curves which subdivide the area treated.

These bold curves are, as it were, the branches of this all-bearing tree. The tree itself has an impartial character. It usually springs from a root, or nest, of clumsy acanthus leaves, which are unidentifiable as representing any plant at all, and the same conventional foliage is usually further called into requisition at the junctions where the "branches" divide. These pieces of crude conventional foliage are apparently of great value in steadying the design. They are usually of considerable area, and seem to take away the fussiness which the multiplicity of natural forms might otherwise produce.

In the upright wall patterns (or, more properly, curtain patterns) the same conventional foliage is used. In these patterns broad stems arise from a conventionally rendered ground below and, in wavy lines, stretch up to a similar border above, throwing off large conventional leaves which serve in this case the same purpose of checking fussiness. We may indeed note of these patterns that the largest forms are not natural, and, also, that the pattern is not based on a geometrical planning, but is formed in obedience to a sense of growth.

In setting out their patterns, the designers seem to have been careful to boldly place their large masses in those positions which architectural considerations demand. In small panels they place a mass in either upper corner, and a heavy mass in the middle below. They very carefully place the rounder parts of their main lines as if those parts were of particular importance. They seem, after these details were properly placed, to have cared little for that perfect tangentiality, of which the artists of acanthus design, at an earlier time, were so considerate.

Still, there is a peculiar beauty in the main lines and in the details, for which it is hard to account. The curves have a variety not readily recognised, and never lapse into designer's trills as they invariably did at a later date.

With the Restoration in 1660 the style went out of fashion. It lingered on, and still lingers on, in a debased form. The flowers became all starry, or rosettes; the curves all graceful and skilful; identity of plant was wholly lost; leaves all became, as did the flowers, alike. The basket of flowers, at first so formal and so decorative, became irregular, tilted on one side, suspended by a ribbon, and ultimately has fallen so low as to be shunned by all designers. The jeweller still engraves the flower of five petals, with its nondescript leaves, and its rococo cartouche work, on lockets, spoons and watches, but the style as it was has gone, save for such occasional revivals as are seen in good plaster-work and embroidery.



A "BASKET" DESIGN. PROBABLY GERMAN, ABOUT 1600.



9, CONDUIT STREET, LONDON, W., 20th Oct. 1906.

CHRONICLE.

Sessional Programme 1906-07.

Arrangements for the new session are nearly complete, and the programme will shortly be published. Mr. T. E. Colcutt will take the chair for the first time as President and deliver his inaugural address on Monday, 5th November. Among the Papers so far arranged for the Ordinary Meetings are the following:—Nov. 19: *The Croesus* (6th century B.C.) Temple of Artemis at Ephesus, by A. E. Henderson, *Queen Jones Student* 1897.—Dec. 17: *The Strength and Composition of Mortar*, by W. J. Dibdin.—Jan. 21, 1907: *Marbles, Their Ancient and Modern Application*, by Sir Lawrence Alma-Tadema, O.M., R.A. [H.F.], and Wm. Brindley.—Feb. 18: *Modern Church Building*, by Sir Charles Nicholson, Bart., M.A. [F.], and Hubert C. Corlette [F.].—March 18: *Libraries*, by Henry T. Hare [F.] and J. Duff Brown.—April 8: *Hotels*, by Stanley Hamp [A.]. The award of Prizes and Studentships is to be announced 21st January, and the distribution of prizes takes place 4th February. Mr. Herbert W. Wills [A.] has given notice that at the Business Meeting, 3rd December, he will bring forward resolutions on the subject of public officials acting as architects for public buildings.

Council Appointments to Standing Committees.

The following appointments to the Standing Committees of the Institute have been made by the Council under By-law 46:—

ART COMMITTEE.—Sir L. Alma-Tadema, O.M., R.A. [H.F.], Messrs. T. Raffles Davison [H.A.], George Frampton, R.A. [H.A.], William Flockhart [F.], and John W. Simpson [F.].

LITERATURE COMMITTEE.—Messrs. J. D. Grace [H.A.], Colonel Lenox Prndergast [H.A.], G. H. Fellowes Prynne [F.], Cecil Smith, LL.D. [H.A.], and C. Harrison Townsend [F.].

PRACTICE COMMITTEE.—Messrs. Ernest Flint [F.], A. H. Kersey [F.], Charles Bellly [F.], H. A. Saichell [F.], and W. Charles Waymouth [F.].

SCIENCE COMMITTEE.—Messrs. Wm. Dunn [F.], F. N. Jackson [H.A.], Wm. Jacques [F.], F. T. Reade [H.A.], and Edmund J. Bennett [A.].

The Examinations: Alteration of Days of Sitting.

On the recommendation of the Board of Examiners the Council have sanctioned the following changes in the days of sitting for the Examinations:—

The Preliminary and Intermediate Examinations will begin on Monday instead of Tuesday as formerly, and there will be an interval of one day between the written and the *ried voce* portions of the Intermediate.

The Final and Special Examinations will begin on Thursday instead of Friday as formerly, and there will be a similar interval between the written and the *ried voce* work.

These changes, which have been made in order to give the examiners more time to go through the candidates' written work, will come into operation at the Examinations next month.

School of Art Wood-carving.

The School of Art Wood-carving, South Kensington, which now occupies rooms on the top floor of the new building of the Royal School of Art Needlework in Exhibition Road, has been reopened after the usual summer vacation, and the Committee of Management desire it to be known that some of the free studentships maintained by means of funds granted to the School by the London County Council are vacant. The day classes of the School are held from 10 to 1 and 2 to 5 on five days of the week, and from 10 to 1 on Saturdays. The evening class meets on three evenings a week and on Saturday afternoons. Forms of application for the free studentships and any further particulars relating to the School may be obtained from the manager.

King's College Hospital: A Retrospect.

Mr. T. Pridgin Teale, Consulting Surgeon to the General Infirmary at Leeds, in the course of an address at the opening of the session of King's College Hospital, made some interesting remarks reminiscent of hospital accommodation in the middle decades of last century. Mr. Teale said that fifty-four years ago he sat in the hall of King's College listening to the opening address of his first medical session, a time preceding the Crimean War and the Indian Mutiny, when ideas as to the improvement of hospital construction and sanitation, if they existed at all, were in their infancy. He was one of a very small number now living who had been through and taken part in the greatest revolution in surgical and medical

practice and in medical education that probably the world had ever known, and one of a still smaller band of men whose student life began in the original King's College Hospital, who, having witnessed the replacement of the old by a new one, the present hospital, were still living to wish Godspeed to the magnificent new building of which the plans had been worked out by the architect, Mr. Pite. The very name King's College Hospital was an epitome of its history. When the medical school of King's College was first established it had no hospital of its own, its students being dependent upon the hospitality of an alien hospital, not conveniently situated for students working at the college in the Strand. Feeling the need of a hospital of their own, at a more convenient distance from the school and under the control of the staff, the authorities purchased the old St. Clement Danes Workhouse, flanked by a disused burial-ground as an "open space." Such was the hospital to which Mr. Teale came as a student in 1852. As a transition he did not doubt the makeshift hospital worked well; certainly there was great clinical enthusiasm, and the most was made of opportunities by the students of that day. Yet this did not blind the authorities to the inadequacy of the building and of the accommodation for patients; an inadequacy which they would appreciate with a sort of horror when he told them that the theatre served the double purpose of providing for operations and for post-mortem examinations, the death-house being placed beneath a trap-door in the floor of the operating theatre! It was during his studentship that the present hospital was commenced, and the first portion was completed and brought into use in his final year, the initial year of the Crimean War. Fine as the building is, and planned as it was in accordance with the views of hospital construction then prevalent, it had the disadvantage of being designed on the plans of the block buildings, when economy of space was deemed imperative, and when windows on one side of a ward were all that were called for. He had just had the privilege of looking over the hospital, and he was struck with the very great difficulties with which the committee had had to contend in order to meet even approximately the increasing and exacting demands of modern practice, teaching, and nursing, and the remarkable way in which in such a contracted area these demands had been met. If the present hospital had lost by having to be built too soon to benefit by modern ideas of construction, the new one would now benefit by the experience gained during the active period of hospital construction of recent years, and so might become the most perfect building of the kind in the kingdom. The motive, that is, the moving force, which had brought about the decision of the council to take the bold step, and to face the pecuniary responsibility and effort of building an entirely new

hospital on a distant site south of the Thames, was the change that had come over that neighbourhood and the shifting of population, so that the present building had become, so to speak, stranded, and out of the way of the poor, who need such an institution in their midst. But it seemed to him that, had this not been the case, and had the demands of the neighbourhood continued at the high level of former days, the question of a new hospital on a larger site must have become still more urgent, so great are the demands of the modern developments of medicine and surgery, and the requirements of teaching in the prolonged medical course. By the courtesy of Mr. W. A. Pite he had looked over the plans for the new building, and he could not but admire the courage of the committee in aiming at an equipment so complete, and the skill with which, provisionally at any rate, the varying and exacting demands of every department had been met. The old workhouse hospital served its purpose in its day, was the scene of the advanced surgery of its time, and was the sphere of work of one of England's greatest clinical teachers, Todd, and of one of our greatest surgeons, Fergusson. Its cost was probably under £100,000, and it had probably 100 beds. The new hospital would be planned in the first instance for 408 beds, with a possible increase to 600, and the preliminary estimate of cost is £866,712. What a contrast! And what a lesson was to be learned from its consideration! Mr. Teale then proceeded to illustrate the lesson by describing in detail the development of the Leeds Infirmary and the expansion of hospital practice.

St. Mark's, Venice.

In the JOURNAL for 25th November last appeared a description of the then nearly completed works for the foundations of the Campanile of St. Mark's, Venice. In the early part of the year work above ground commenced, and proceeded rather slowly until about four months ago when it was stopped altogether, the new tower being then not more than eighteen feet above the surface of the pavement. The *Morning Post* of the 21st ult. publishes the following from its Venice correspondent as to the causes of the suspension of work:

The cause of the stoppage is the opposition which has arisen to the construction of the tower and the consequent appointment of a Commission to inquire into and report on the work done. Pending the final report of this Commission—a preliminary report has already been issued—all work has been suspended.

The objections raised to the new tower are mainly four. Critics object that the bricks employed contain a large percentage of sulphates which exude through the sides and form a white deposit on the outside of the tower. This phenomenon is obvious to all who examine the building; I have myself rubbed off a layer of white deposit from some of the bricks. But people who have lived many years in Venice point out that all, or most, of the bricks used in the Venetian buildings are discoloured

in the same way, and that it does not in the least follow that the bricks of the new tower will crumble away any more than that the white efflorescence will affect the mortar in the interstices and tend to dissolve it. From the part of the tower which is exposed to the sun the white powder has entirely disappeared; it is only on the shady side that it is still to be found. The second criticism is directed against the mortar, which is of the nature of Portland cement. It is argued, not without some reason, that pozzolana, the most binding and most durable of all mortars, should have been employed for a work which is intended to defy the ravages of time. Roman architects are wont to compare the extraordinary durability of the ancient Roman buildings, in which pozzolana was used, with the greatly inferior powers of resistance exhibited by mediæval buildings at Venice and elsewhere, in which other cements were adopted. But there was this objection to the use of pozzolana for the new Campanile, that though it is not more expensive than the cement actually employed it takes twice as long to set, and therefore the tower would have occupied much longer to construct—a feeble argument in the case of a monument which should be *perennius*. From the materials used the critics then turned their attention to two details of construction. It will be remembered that the new Campanile was to be an exact copy of the old. But it does not seem to have occurred to anyone to ask the simple question which particular period in the old Campanile's long life was to be copied. Some not unimportant details of that venerable building varied with age. For example, it was originally constructed with five steps at the base, and the new tower faithfully reproduces these five steps. But at the time when the old Campanile fell and for at least a hundred years before, owing to the rise in the level of the Piazza, two of the original five steps were below ground and only three were visible. Therefore, argue the critics with truly Byzantine subtlety, the new tower should, like that which we were always accustomed to see, have only three. Finally, the inside of the old tower was supported by eight pillars, while there are only four within the new, and this deviation from the ancient model has naturally not escaped the notice of the opposition.

"The Opposition" is, indeed, the right word to use, for politics, as they are understood in Venice, enter largely into this question. I do not mean that the supporters of the Triple Alliance are necessarily advocates of five steps, or that pozzolana instead of Portland cement is an essential item in the Irredentist creed. The fact is that politics here are largely a question of local persons, *campanilismo*, as the Italians call it, which very appropriately settles round the Campanile. The defenders of the new tower maintain that full and elaborate plans and models were publicly exhibited before the work began; that none of the present criticisms were then heard—though there was a party which was opposed to rebuilding the tower at all—and that now, when nearly a year has been spent in building the first section, the then silent critics have opened their mouths and have caused the suspension of the works, perhaps as a preliminary to a fresh start being made from the foundations. Professional jealousy is perhaps not more acute in Venice than elsewhere, but I have heard it said that if at the outset the authorities had put every Venetian architect on to a committee for the Campanile these acute rivalries would not have arisen. Everyone's ambition would have been satisfied, and a small sub-committee chosen from the larger body would have really done all the work. Such expedients are used, as everyone knows, by modern British Prime Ministers; eighteen or nineteen people with "claims" form the Cabinet; three or four of them actually govern the country. As it is, were the Campanile resumed on the present plan to-morrow, three years more must elapse before Cook conducts his first tourist to the top.

The same writer gives some interesting details of the work of preservation now in progress at the basilica of St. Mark.

At the present moment work is being actively prosecuted in no less than four separate points of the building, while at two others the preparations for repairs are now made. First and most noticeable is the task of making good the fissures that have appeared in the atrio, or vestibule. The part to the right of the main entrance is now entirely closed to the public, and there the engineers have had a difficult problem to solve. The great columns which stand there have been split by the oxidation of the iron clamps inside the base and at the top of each, and it has been necessary to raise the capitals, which fortunately have nothing resting on them, by means of a crane, extract the oxidised iron, replace it with bronze, lift up the whole column for the same operation at its base, and then replace each column and capital in its former place and at its former angle, slightly out of the perpendicular. Two columns have already been treated successfully in this way. In a fortnight's time another pair will be taken in hand. Inside, right up to the roof, there now stands a vast and massive scaffolding, four stories in all, made of American pitch pine, which looks as if it were meant to last for ever. The roof was cracked in this part, and the mosaic has consequently been partially removed. Complaints are made in Venice that this operation is frequently misunderstood abroad, and it may therefore be well to describe how it was accomplished. An impression of the mosaic is first made on specially prepared paper—*carta da stiro* as it is technically called—which, being porous, receives an exact impression of each separate piece of mosaic. This paper is then coloured with the precise colours of the original and serves as a pattern. The mosaic is then taken off in strips of about 2 or 3 feet in length and is laid on the wooden floor of the scaffolding in exact order just as it was on the wall of the basilica. All the mosaics of the Tribune of the Patriarch, for example, which had begun to fall, are now lying in this position. The architects claim that when a wall has been repaired and the mosaic replaced it is impossible to distinguish any difference between that which has never been moved and that which has been temporarily taken off. Certainly an untrained eye finds it impossible to say where the division between the two begins.

From the vestibule we pass to the above-mentioned Tribune of the Patriarch, now stripped of its splendid dress. Here one of the arches has given way, part of the Byzantine cornice has slipped about an inch, and the circle of the cupola has been so displaced as to be now an ellipse. Emerging through a dark and narrow passage on to the roof and scrambling over the leads we find that the men are at work on the central cupola, where more than half of the woodwork and the lead which covered it has to be renewed. At the cupola of the Madonna the mosaics have been already replaced, but the work of strengthening the supports of the cupola is not yet finished. More serious will be the repairs at the corner of Sant' Alipio, which faces the Piazzetta del Leon, and which needs drastic overhauling, as its walls are in a bad state. The last item in the present programme is the repair of the dome of the Apocalyptic, the plans for which are complete. There is no lack of funds for St. Mark's. The Austrians endowed it with £2,040 a year, and for many years there were large savings out of this income which are now available.

Obituary.

FREDERIC WILLIAM LEDGER, whose death, the result of an accident, occurred on the 2nd ult., at the age of fifty years, was elected an Associate of

the Institute in 1882. Mr. Ledger practised at 8 Philpot Lane, E.C. Among his works are the Conservative Club House at Epsom, Messrs. Rogers' premises, Cliftonville, Bermondsey, and plans for the rebuilding of 24 Brook Street, Grosvenor Square.

CHARLES LONG, of the firm of Messrs. Wylson and Long, of 16 King William Street, Strand, had been an Associate of the Institute since 1882. His firm was responsible for the plans and designs of the new Oxford Music Hall, London, the Euston Theatre of Varieties in Euston Road, and a large number of similar buildings in London and suburbs, and in the provinces.

MR. BOND'S "GOTHIC ARCHITECTURE."

From Mr. EDWARD S. PRIOR [*F.*]

Mr. Bond's good-natured reply to my criticisms on his big book might well have been allowed to stand—even though I am not of his mind that "Rickman's periods are dead as a door-nail." But when, leaving the vindication of his own views, he carries the campaign into his friend's country, and would attack, not what I wrote in review of him, but what I have said elsewhere, and, moreover, what he thinks I am going to write, he compels me to ask space for a short rejoinder.

My criticism on Mr. Bond's references to Chichester was, that they went wrong in some cases from his having "partly misunderstood, and partly been led astray by Professor Willis's *Monograph*." Mr. Bond meets this by suggesting that I am going to supersede Professor Willis's paper by a scientific monograph of my own. It is kind of Mr. Bond to set me this task; but how will such posthumous efforts on my part help the dead-and-done-for blunders of Mr. Bond's book? For most of these Willis's pages gave him no excuse—*e.g.* for the idea that the nave chapels of Chichester were inserted between the projecting buttresses of the earlier vault-scheme—or for the remarkable incorrect tracing of the Chichester arch-moulds. Still, in some ways, Mr. Bond has, I believe, been led astray by Plate 3 in Professor Willis's paper. This is entitled "Nave" section; but one half of it—if a quite plausibly conjectured section of the early twelfth-century quire—is a quite untrue one of the nave. And the other half—though it correctly shows one pier of the nave—is true of that pier alone; it is quite misconceived as a general representation of the 1190-1250 buttress scheme. In Willis's pages this misconception goes no way—but in Mr. Bond's it leads to a series of errors. Now, Willis wrote some five-and-forty years ago, and five minutes' observation on the spot would have steered Mr. Bond clear of this rock. Yet our author seems to congratulate himself on going plump and blindly upon it. And it

is evident that not at Chichester only does Mr. Bond go with shut eyes—nor is Willis the only author whom Mr. Bond does not interpret or quote correctly. At any rate, as regards my own small case, Mr. Bond (so he says in the *JOURNAL*) sees "nothing wrong." Yet my investigations into mason-craft based certain distinctions on three particulars: (1) the choice of stone; (2) the dressings of it; (3) the laying of it. Mr. Bond in his quotation has cut away two of my legs, exhibits my argument uneasily balanced on a single prop, and sees "nothing wrong"!

Then, as to Breton architecture. My *History of Gothic Art in England* had, in 1898, expressed the opinion that certain Breton churches which I had visited were works of the fourteenth century, according to the received authorities, and were remarkable as showing the characteristic style of English Gothic building at the time at Exeter. Moreover, that certain other churches in Brittany (*c.* 1370) were thereafter built in this style, laying the foundation for the fifteenth-century flamboyant development of Normandy. Now Mr. Bond, on page 132 of his *Gothic Architecture*, has found it possible to quote me thus:—"The late School of French Gothic of Brittany, architecturally, would seem during the *fifteenth* century to have been influenced by Western England"—either a slip of fifteenth for fourteenth or a misquotation arising from careless reading. The context shows it to be the latter, for Mr. Bond goes on to say: "It has been reserved for M. Camille Enlart to state definitely the dependence of the fifteenth-century architecture of France on that of the *fourteenth* century of England." The italics are mine, not Mr. Bond's.

It is gratifying for me to find that Enlart, by another route, has reached, in 1904, the conclusion that I advanced in 1898; but Mr. Bond should have taken the trouble to read me before citing me for an opinion I did not and do not hold—viz. that the fifteenth-century architecture of Brittany was in any way dependent on the Perpendicular—or whatever these anti-Rickmanites may call it—of Devon and Cornwall. And when this is pointed out to him, might not Mr. Bond correct his slip? Errors of a hundred years or so are of some moment in his pages. But he reads me now, not to quote but to discredit my views, and thinks he can do it in this way. In 1902 Enlart's *Manuel d'Archéologie Française* gave lists of Gothic churches under three broad headings: (1) "Églises de Transition"; (2) "Églises Gothiques de la fin du xii^e à la fin du xiv^e siècle"; (3) "Églises Flamboyantes"; and Mr. Bond has thought that in these lay his opportunity. Instead of going to Brittany and seeing himself if I had grounds for my opinion, it would be easy to quote from these lists of Enlart's a date or two to crush me. But in his eagerness he has overlooked some things. Enlart's lists are more geographical than

chronological—they are lists of the place-names of churches grouped in the alphabetical order of departments. Except as regards the above broadly grouped divisions of style, the dates are given only here and there as mere summary notes or parenthetical indications. In calling these "chronologies," our author shows again that he can neither understand nor quote his authorities correctly.

Mr. Bond's other omission is a curious one for a critic to make and publish. Quimper and Treguier were the important links in my connection of the fourteenth-century architecture of Brittany with that of Exeter. Mr. Bond had quoted in his book these two churches as my examples; now in the *JOURNAL* he has thought it convenient to omit them. Why? Because Enlart's dating of these two Breton cathedrals confirms my date for them. It is scarcely necessary to say more or to point out Mr. Bond's apparent ignorance that there is a church attached to the spire of the Kreizker; and that, again, Enlart is with me as to date of both this church and the spire itself. I am safe, at any rate, in the conjecture that our author has never been to Dol, or his extreme confidence in being able to show me wrong as to this church would evaporate.

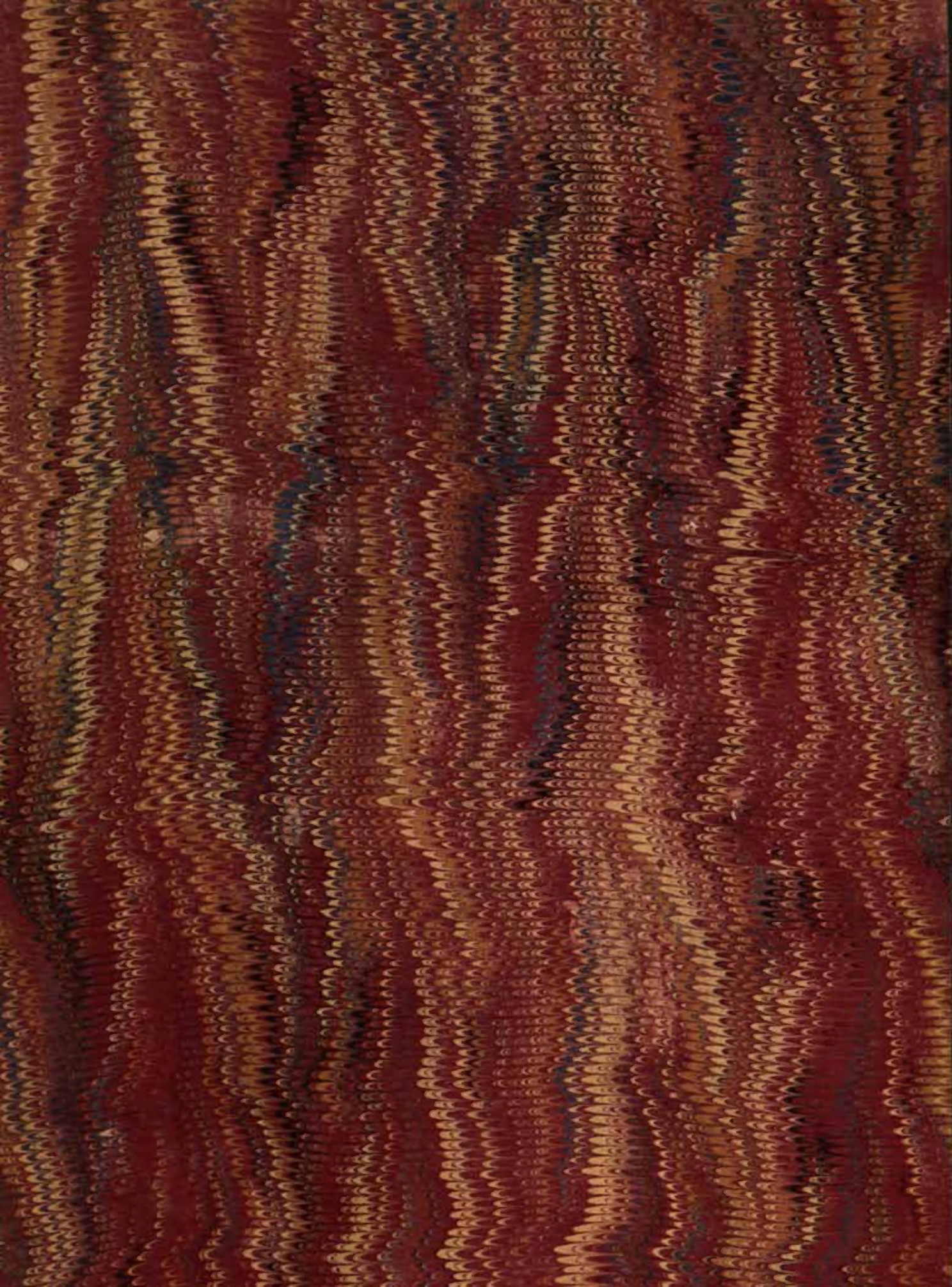
However, Mr. Bond's book is on English not Breton architecture; so let us turn to Lincoln, and his view on p. 328 of what he asserts is from a photograph of its central tower. Now deans and chapters do funny things, and since I was there a year ago they may have pulled down Lincoln nave and the thirteenth-century tower, and "restored" them as a west tower with fifteenth-century piers and seemingly Perpendicular windows. This is what Mr. Bond's camera has made of it. So he should not express such surprise that I (and, I should think, all others who know Lincoln) wait for an explanation. I accept, of course, his statement that he never took a photograph at Boston. Should he not add that he has never been to Lincoln either, in addition to his admissions that he has never seen anything at Chichester, and that he never read Gervase's history of the rebuilding of Canterbury quire, but based his faith on Paley's *Evidences*? Now Paley's *Manual of Gothic Architecture* was published in 1846, and Bishop Stubbs edited the full text of Gervase in 1879. Every detail of this remarkable building record has been fully canvassed these thirty years, and not Mr. St. John Hope and myself alone, but most readers of Mr. Bond must have rubbed their eyes at his perverse quotation.

And the curious thing is that he has fathered this bantling of his on "the ablest man who has ever written on mediæval architecture"! This is our author's opinion of Professor Willis, and he might surely have done him the respect of reading him before citing him. But there is so much of real value in Mr. Bond's pages, it is a pity he allows them to be marred by continual slips such as this. Let him re-establish his reputation in the next edition by being generally correct as to his facts and quotations, then his theories as to Rickman &c. may be seriously considered.

MR. FRANCIS BOND, M.A. [H.A.], to whom an advance proof of the foregoing was sent, replies as follows:—

Mr. Prior's remarks need not detain me long, and the editor very properly insists that this correspondence now cease. I may be allowed to premise that I really have visited Dol, Boston, Lincoln, Chichester; and that I read all the books and papers in print of Mr. G. E. Street before commencing my own work. I am also one of the select company, fit though few, who have read Mr. Prior's *History of Gothic Art in England*: let that at least be accounted unto me for righteousness. One point may be gracefully conceded to my reviewer. He has discovered in a photograph of mine the vault, not of Louth spire, which it is, but that of Boston Stump, which it is not. As to the rest, Mr. Prior still plumes himself on seeing no difficulty in the existence of fourteenth-century Flamboyant in Brittany in churches of which at that time not one stone had been laid. Professor Willis's text and sections of Chichester move him not. If there was one man worthy to be compared in accuracy and ability with Professor Willis, it was Mr. Edmund Sharpe, and Mr. Sharpe it was who traced the Chichester arch-mould to which Mr. Prior takes exception. Again, if there is one man in the younger school of accurate and scientific archaeology in France who is, if anything, more accurate and more scientific than the others, it is M. Camille Enlart. But Mr. Prior blandly assures us that M. Enlart's chronologies are but "mere summary notes" and "parenthetical indications." These be "prave 'ords," almost as good as Mr. Winston Churchill's "terminological inexactitudes." And there I leave my friend; if he will not be convinced by Professor Willis and Mr. Edmund Sharpe and M. Enlart, neither would he listen though one rose from the dead.





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